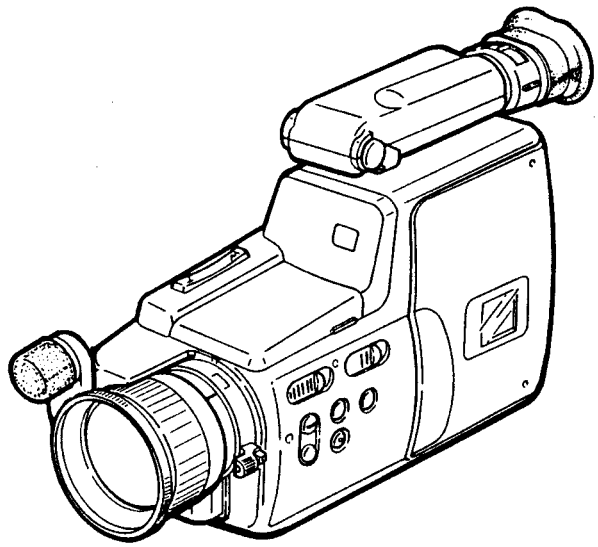
SANYO

Service Manual — 8 mm Camcorder — VEM-S1P



Specifications

Video recording system	Rotating 4-head helical-scan FM, color under system
Audio recording system	Rotating head FM system
Video signals	PAL color, CCIR
Cassette type	8 mm video tape cassette
Tape speed	20.051 mm/sec.
Recording/ playback time	90 minutes (P5-90 cassette)
Fast forward/ rewind time	Approx. 5 minutes (P5-90 cassette)
Pickup element	CCD solid-state type
Viewfinder	Electronic (0.7 inch type, black and white)
Lens	Electro-powered 6X zoom lens f = 12 ~ 72 mm F 1.6 Close-up function (18 mm~ 1.2 m) Automatic focus Filter diameter 49 mm
White balance adjustment	Automatic
Minimum subject illumination	7 lux
Subject illumination range	7 lux ~ 100,000 lux
Recommended subject illumination	300 lux or more

Power supply voltage	Battery holder input 6V/7.5V/9V
Power consumption	6.4W during camera recording
Operation temperature range	0℃ ~ +40℃ (32°F ~104° F)
Storage temperature range	−20℃ ~ +60℃ (−4°F ~ +140°F)
External dimensions	99×157×255 mm (W×H×D)
Weight	Approx. 0.9 kg. (not including battery pack and cassette)
Microphone	Electret condenser type (unidirectional)
AUDIO · VIDEO OUT terminal	Video output 1Vp-p, 75Ω unbalanced, negative sync Audio output −6dBs, 2.2kΩ or less
Microphone jack	Mini jack, −64dBs For low-impedance microphone

PRODUCTION CODE No.
126 008 02 (G)
126 008 09 (SW)
126 008 12 (SP)
126 008 10 (E)
126 008 13 (A)
126 008 11 (ME)

● Specifications and external appearance are subject to change without notice.

ES1P/G, SW, SP, E, A, ME

REFERENCE NO. WM-550033

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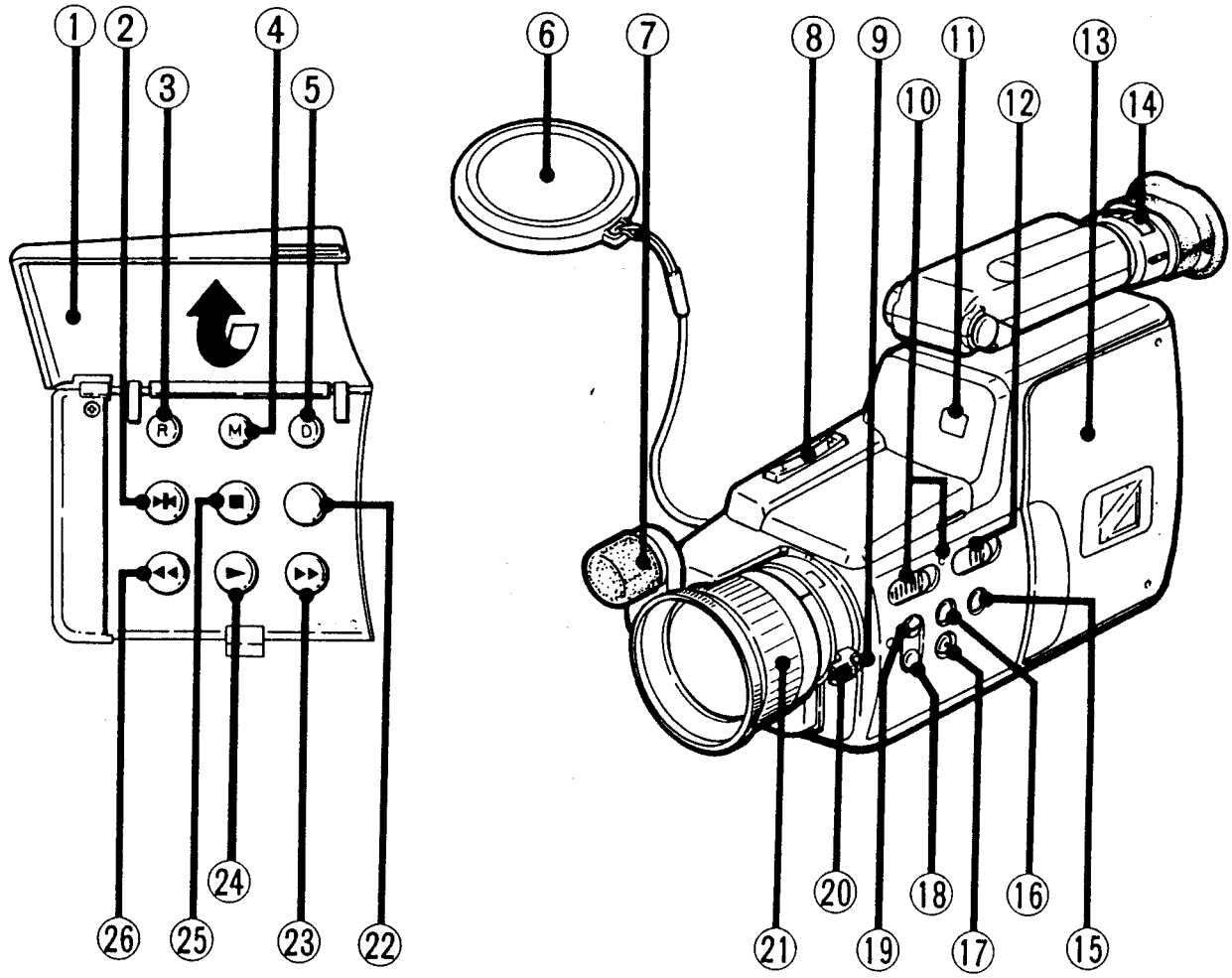
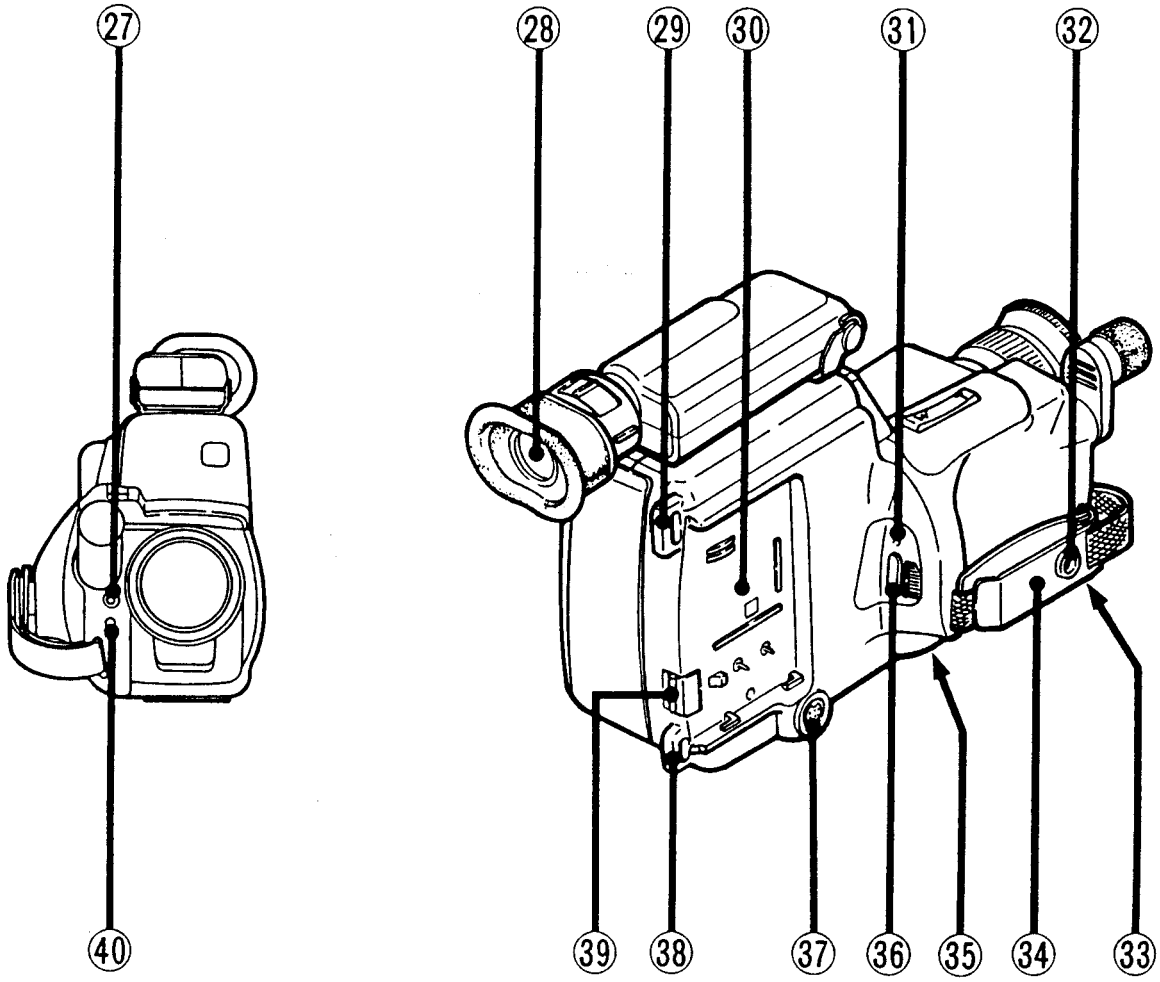
PARTS NAME



No.	Name
①	Operation cover
②	STILL button
③	RESET button
④	MEMORY button
⑤	DATE/TIME ADJ button
⑥	Lens cap
⑦	Microphone
⑧	Power zoom button
⑨	MACRO SET button
⑩	POWER switch and lamp
⑪	WHITE SENSOR
⑫	EJECT switch
⑬	Cassette holder

No.	Name
⑭	Eyesight compensation lever
⑮	DATE/TIME button
⑯	HIGH SPEED SHUTTER button
⑰	FADE button
⑱	FOCUS REV button
⑲	FOCUS switch
⑳	Zoom lever
㉑	Focus ring
㉒	REC button
㉓	FF button
㉔	PLAY button
㉕	STOP button
㉖	REW button



No.	Name
㉗	EXT. MIC jack
㉘	Viewfinder
㉙	Shoulder belt hook
㉚	Battery holder
㉛	REC/PAUSE lamp
㉜	Lens cap snap
㉝	Lithium battery cover

No.	Name
㉞	Grip belt
㉟	Tripod screw mount
㊱	REC START/STOP button
㊲	AUDIO • VIDEO OUT terminal
㊳	Shoulder belt hook
㊴	Battery eject lever
㊵	REC/PAUSE lamp

2. REMOVAL PROCEDURE

2–1. Cassette Cover and Left Cabinet

1) Remove screws ① (2 pcs). Slide the cassette cover ② out in the direction of the arrow and remove it.
2) Remove screw ③ securing operation panel.
3) Remove screws ④ (5 pcs) and ⑤. Loosen through about one turn the remaining 2 screws that secure the viewfinder and remove the left cabinet ⑥.

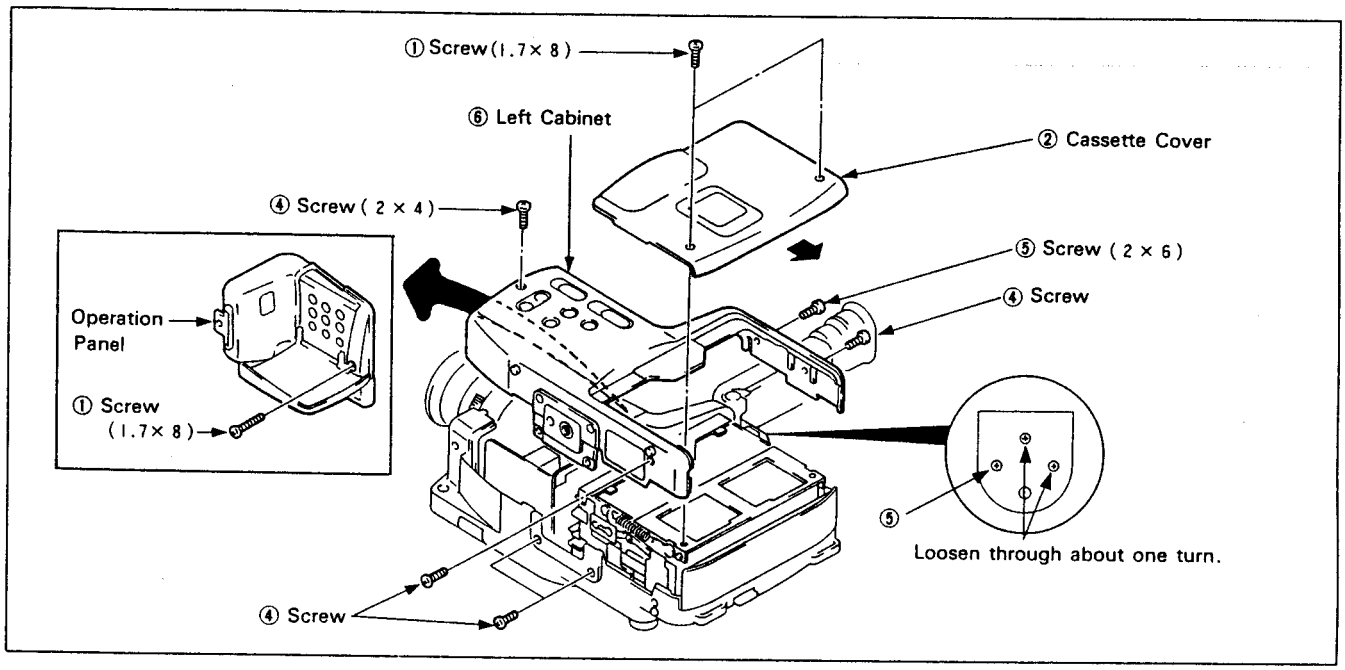


Fig. 2–1.

2–2. Removing Operation Panel and SY1 and TC1 Boards

1) Remove screw ①. Remove the operation panel ② by sliding in the direction of the arrow.
2) Remove screw ③ then SY1 board ④
3) Remove connectors ⑤ and ⑥ from SY1 boards.
4) Remove screws ⑦ and ⑧ .Remove the TC1 board ⑨.

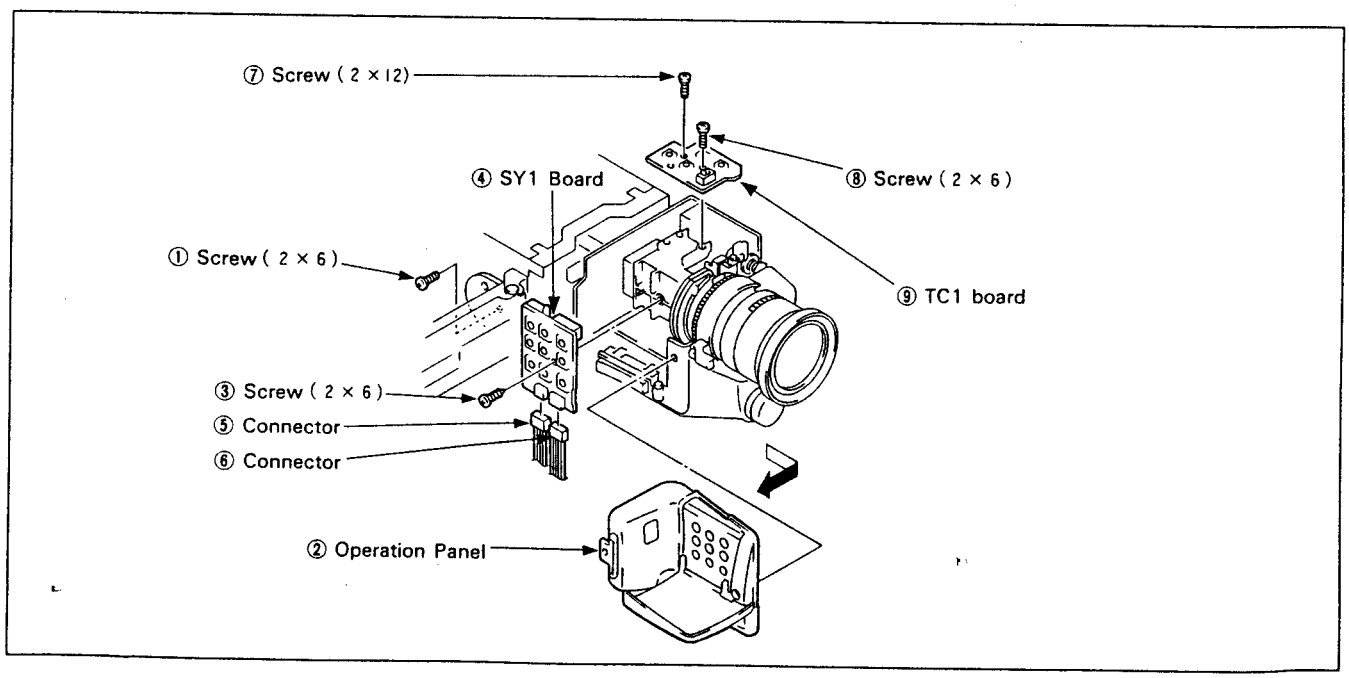


Fig. 2–2.

2–3. Removing Viewfinder

1) Remove screw ① then braket ②.
2) Remove connector ③ and separate the viewfinder block from the body.
3) Remove screws ④ (4pcs) then the upper cabinet ⑤ and eyepiece ⑥.
4) Remove connector ⑦ and fixer ⑧. Separate lower cabinet ⑨ from VF1 board ⑩.

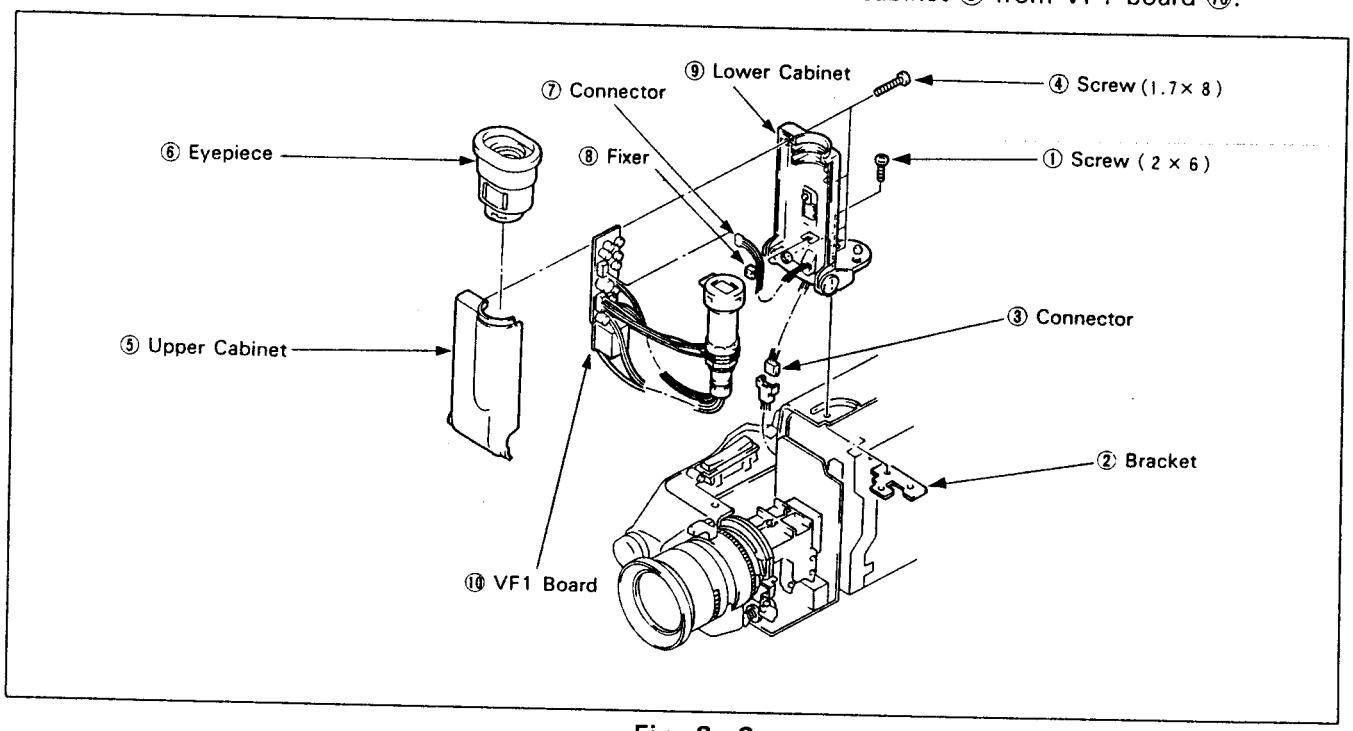


Fig. 2–3.

2–4. Removing Camera Block

1) Remove screw ①. Lift the camera block.
2) Remove connectors ② and ③. Detach the camera block.
3) Unsolder and remove shield plate ④.
4) Remove screws ⑤ (2 pcs) then CA1 board ⑥.
5) Remove TC3 board ⑧ from CA2 board ⑦.

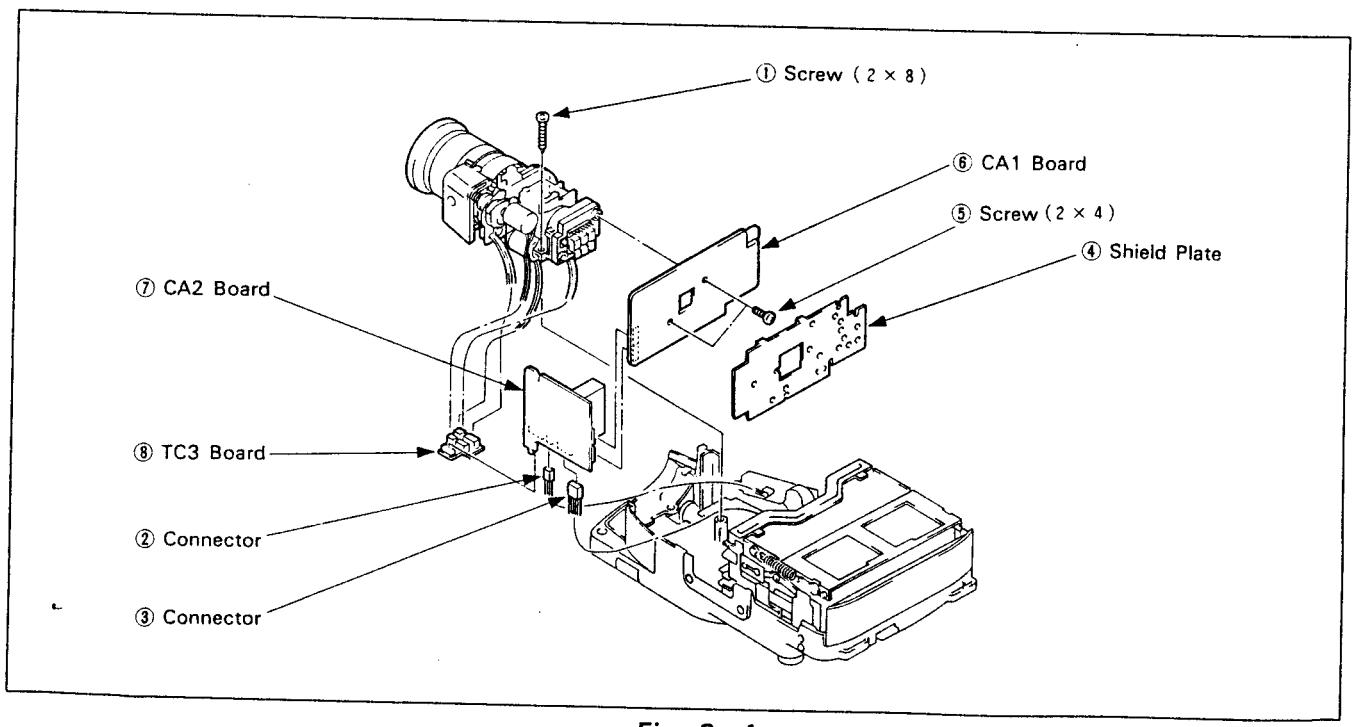


Fig. 2–4.

2–5. Removing VTR Deck and Right Cabinet

1) Remove screws ① (3 pcs) then microphone holding cabinet ②.

2) Remove screws ③ (4 pcs), connector ④ and microphone ⑤.
Detach VTR deck ⑥ from right cabinet ⑦.

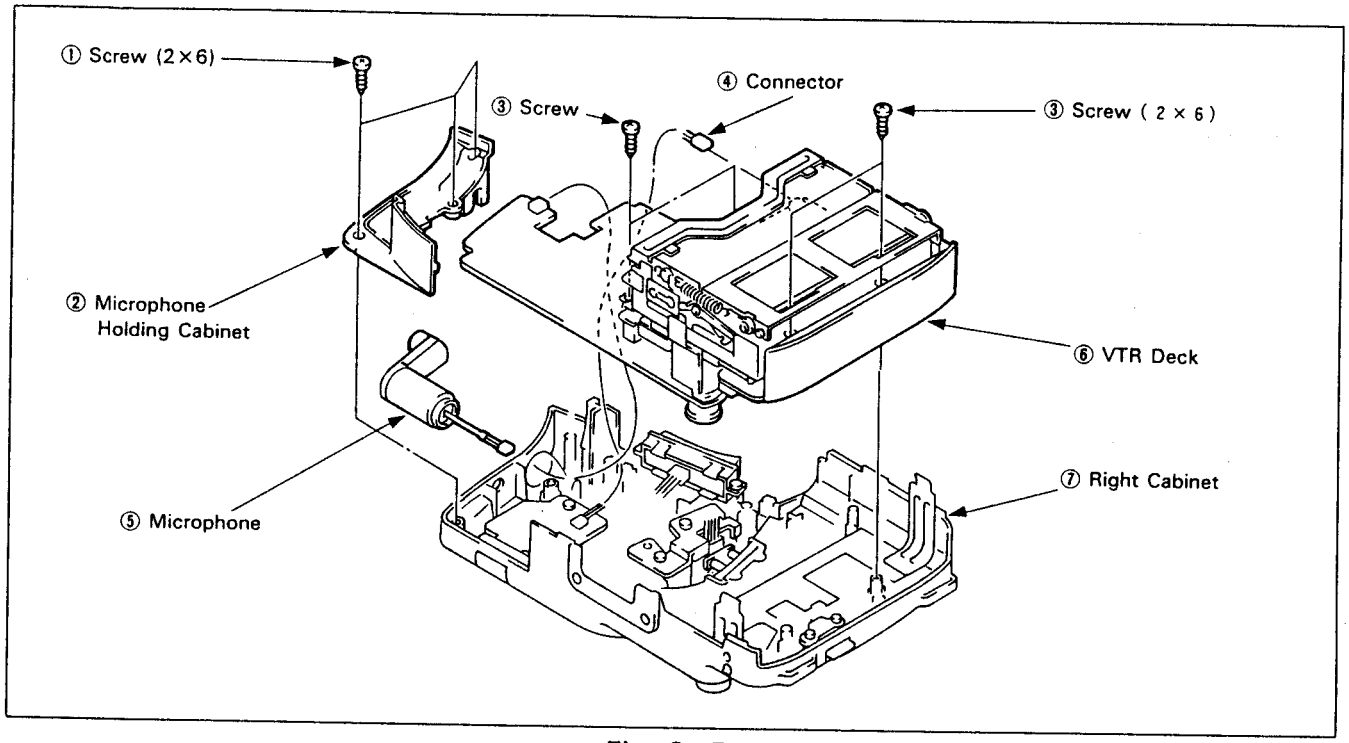


Fig. 2–5.

2–6. Removing VD1, SV1 and VP1 Boards

1) Remove screws ① (2 pcs). Remove VD1 board ② from the subchassis locks.
2) Remove connector ③.
3) Remove FPC connectors ④, ⑤, ⑥ and ⑦. Remove SV1 board ⑧ and VP1 board ⑨.

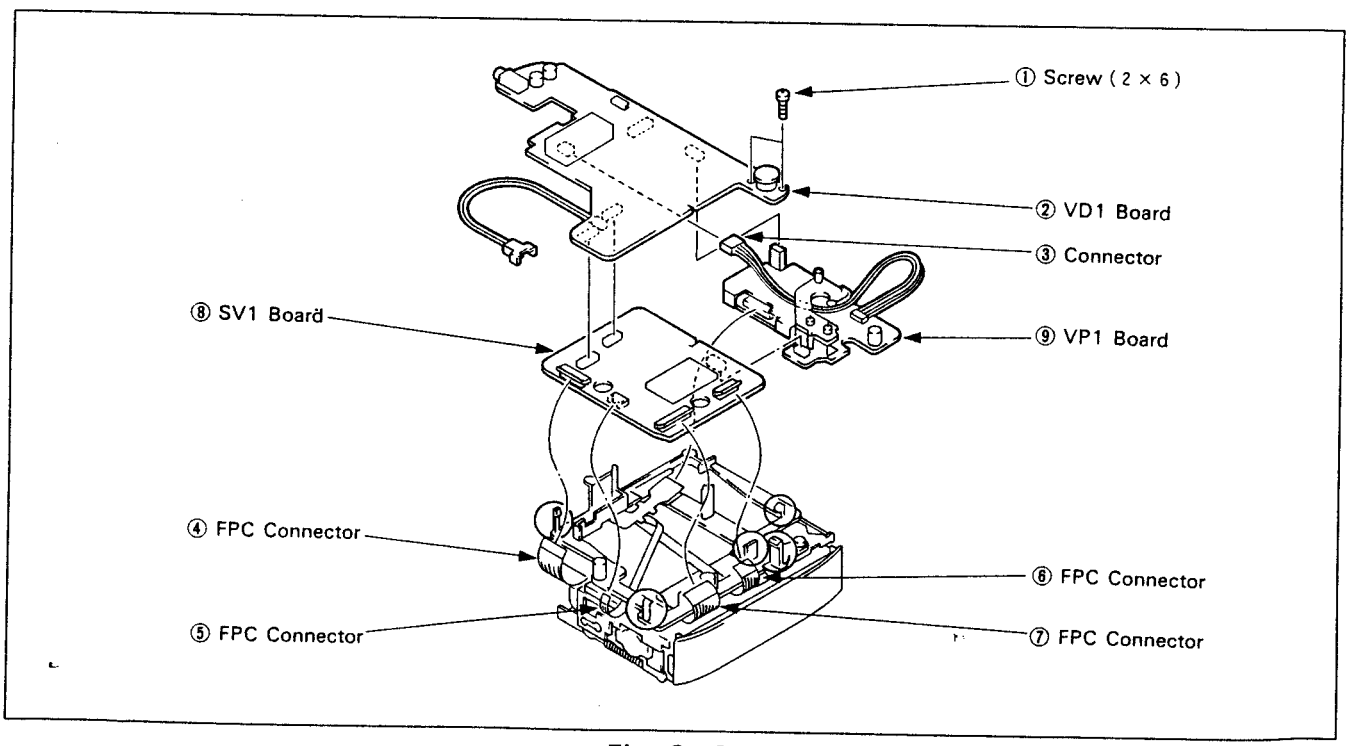
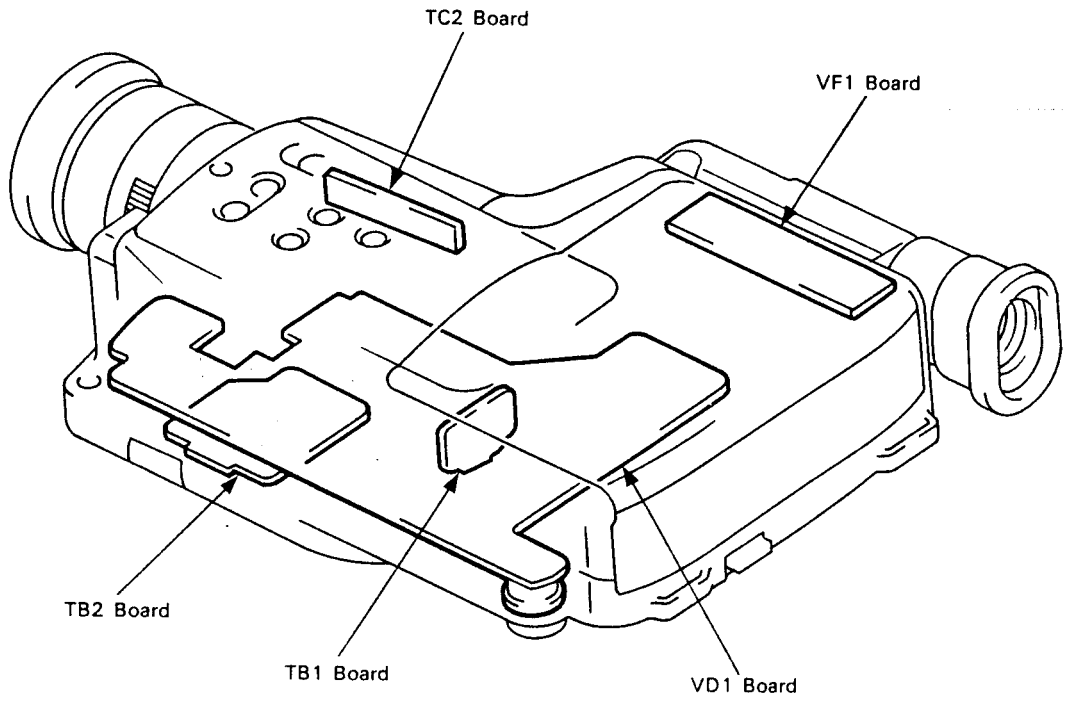
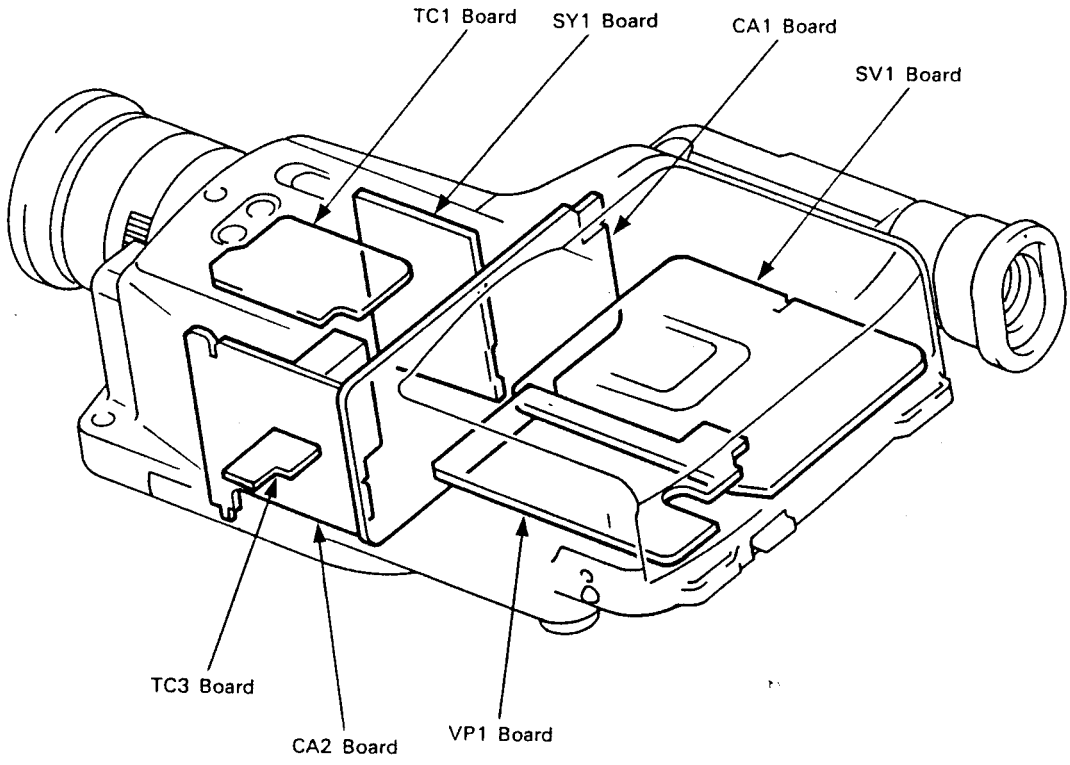


Fig. 2–6.

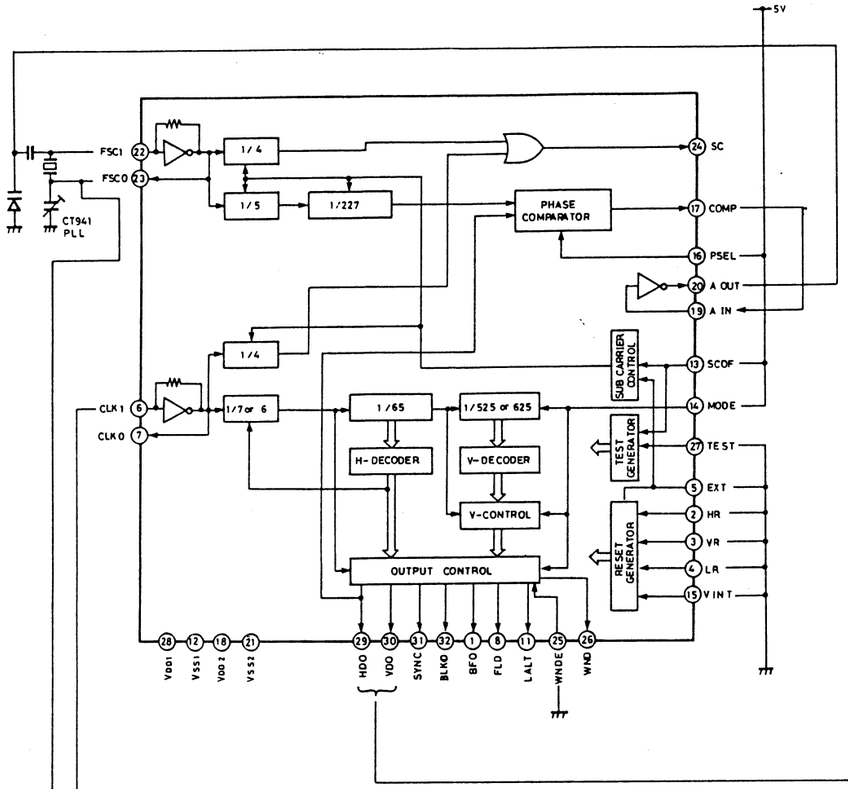
3. DIAGRAM

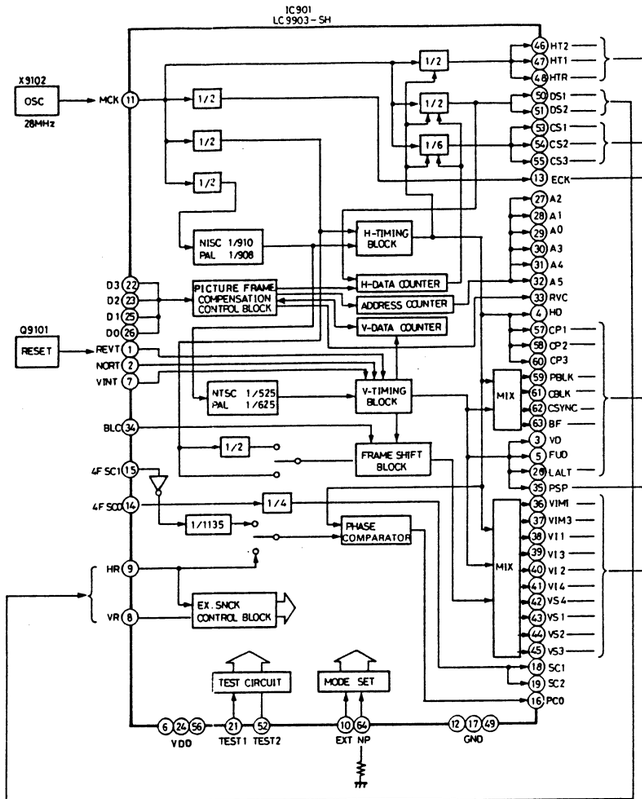
3−1. PCB Location

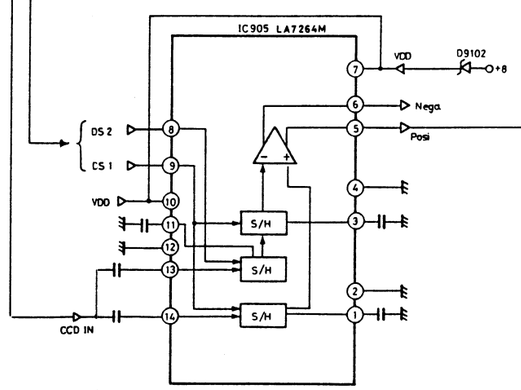


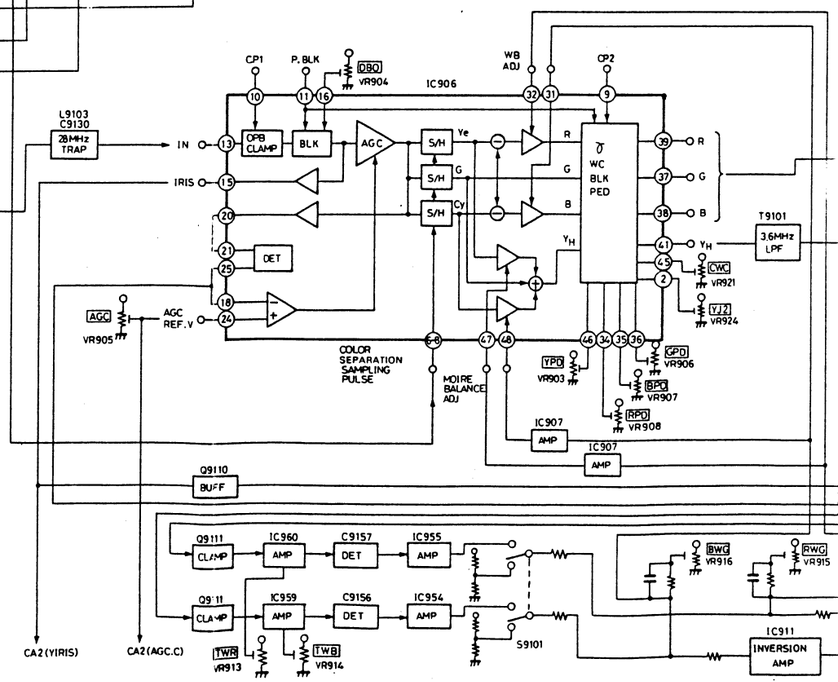


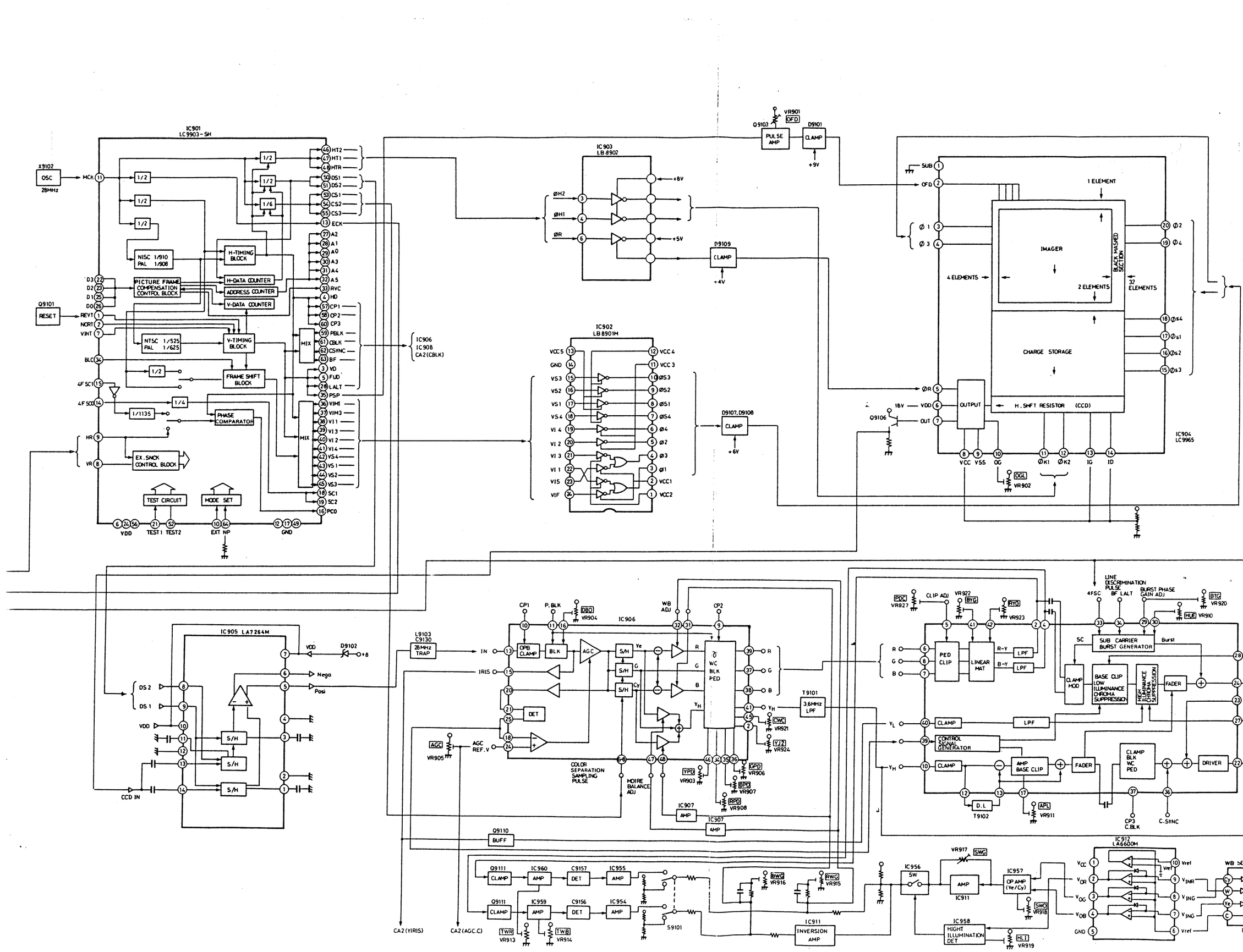
3–2. Camera Block(1)



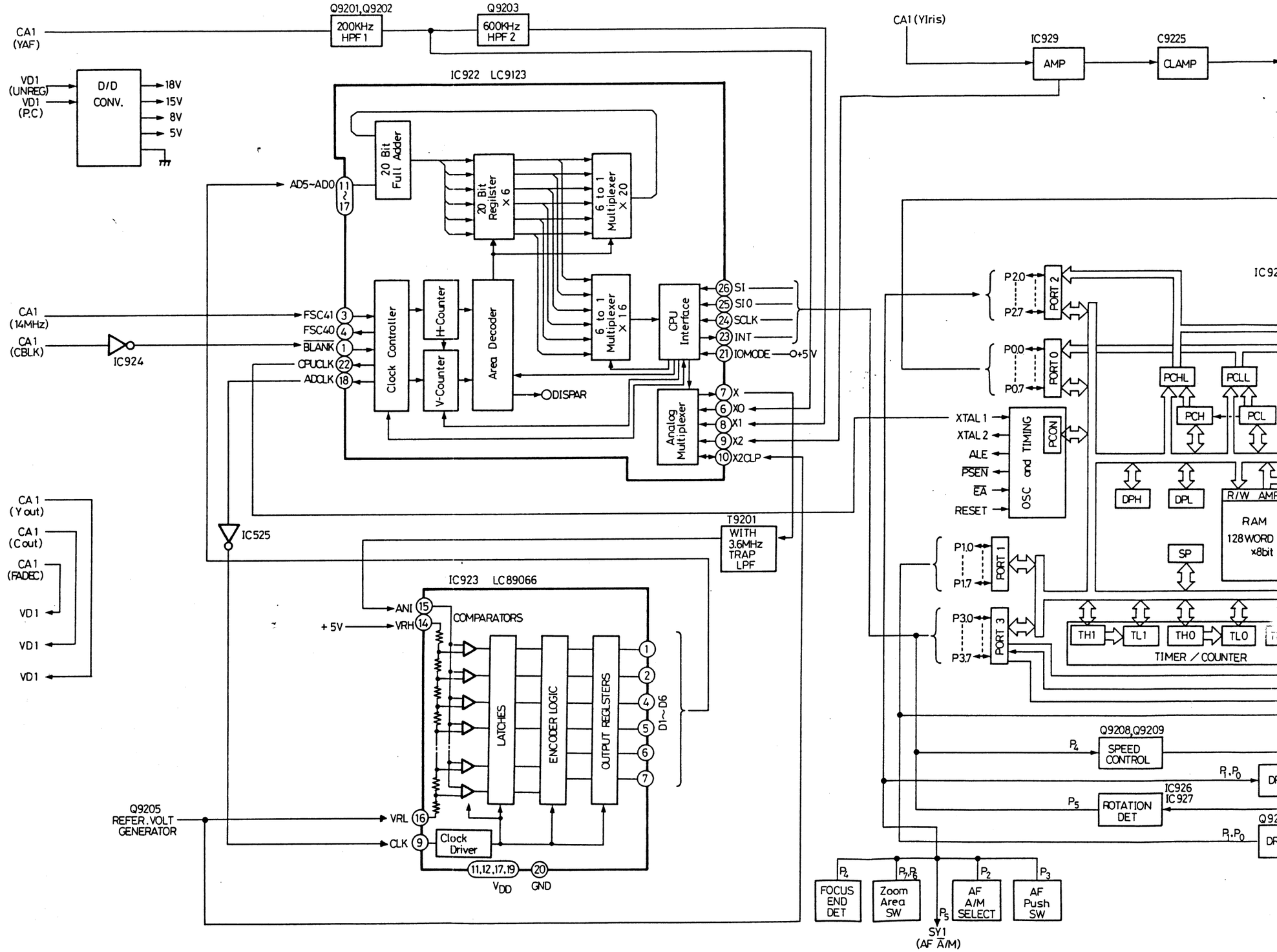


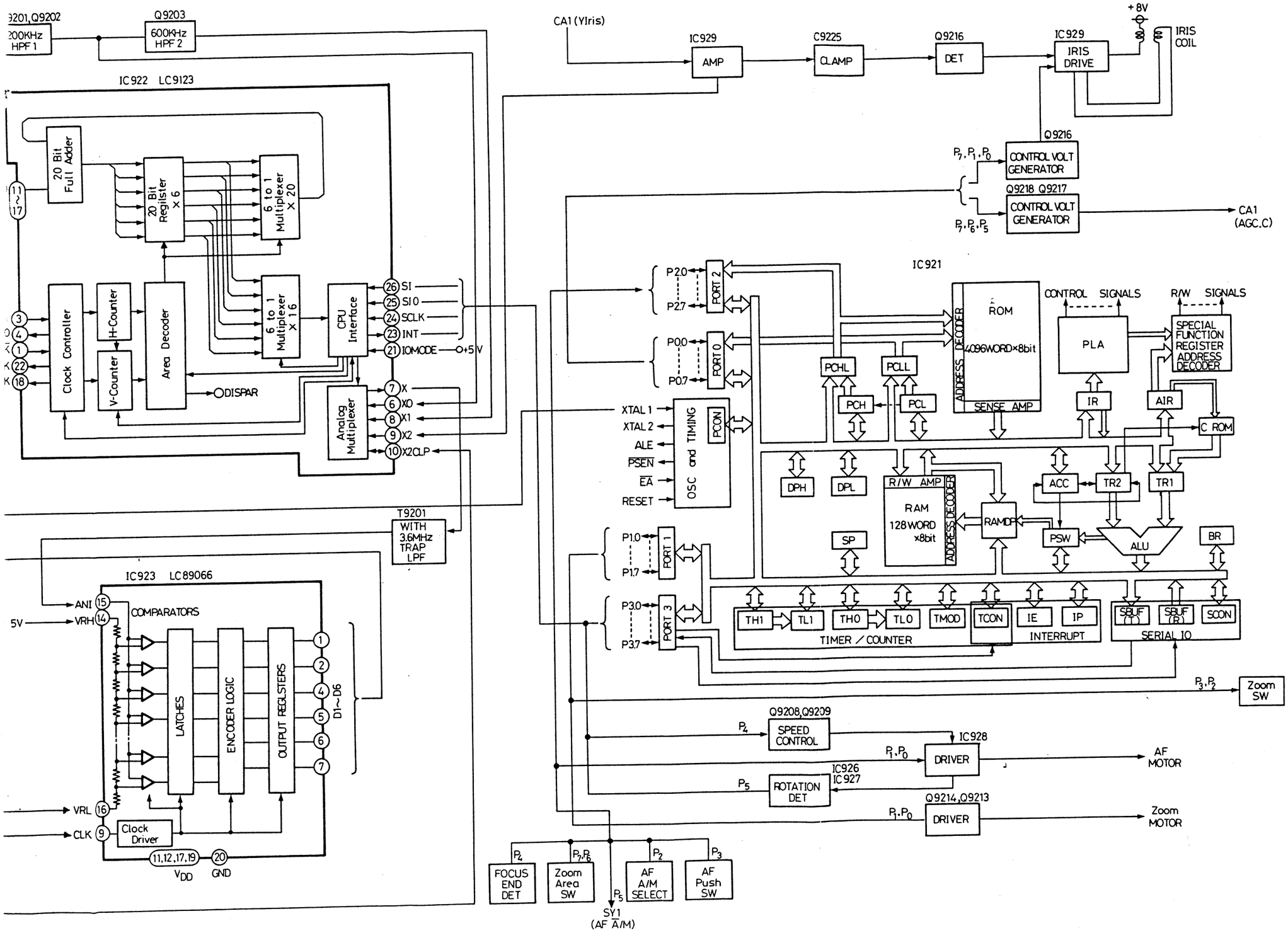




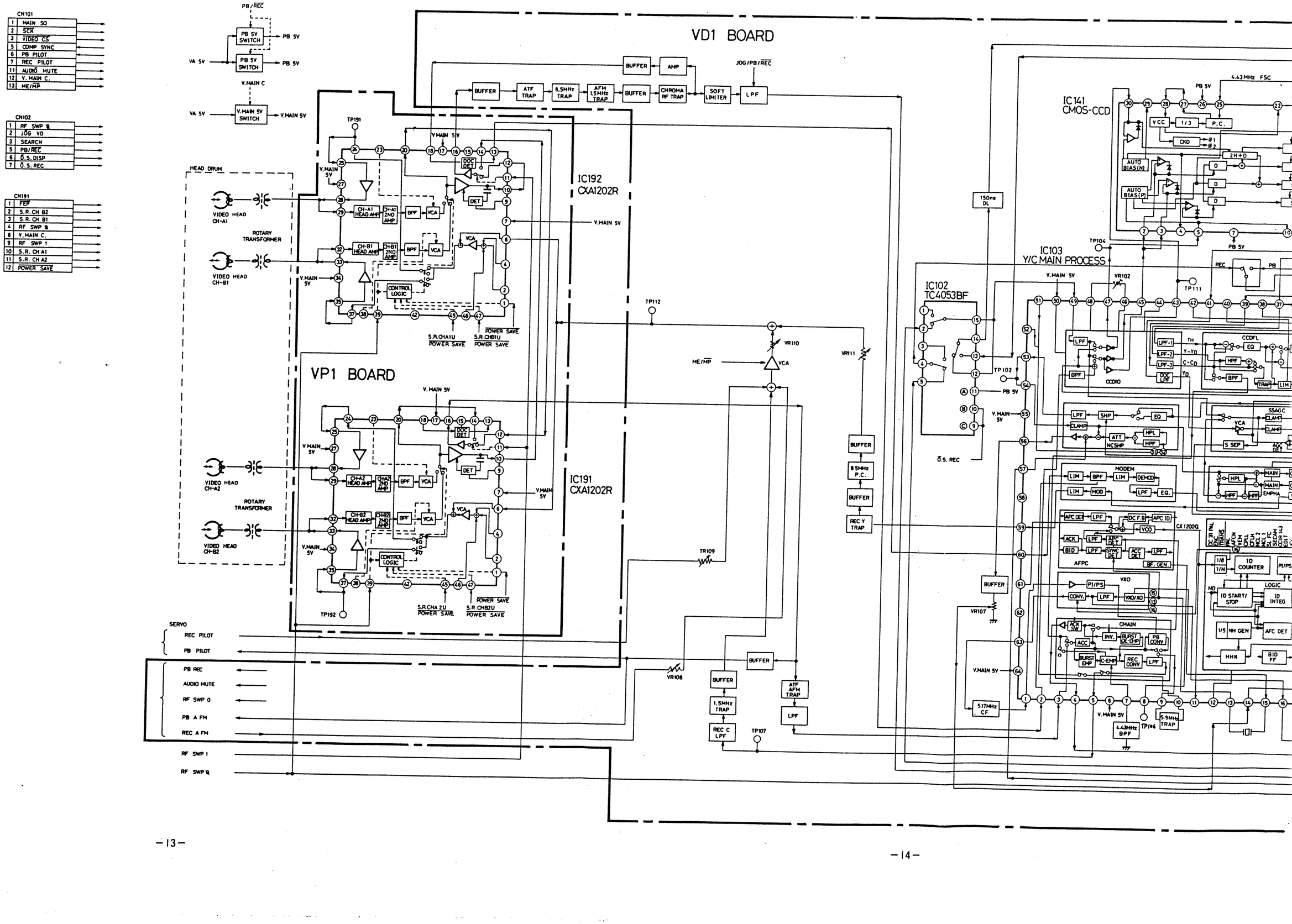

IC901
LC9903-SH
X9102
OSC
28MHz
MCK
1/2
1/6
NISC 1/910
PAL 1/908
H-TIMING BLOCK
H-DATA COUNTER
ADDRESS COUNTER
V-DATA COUNTER
PICTURE FRAME COMPENSATION CONTROL BLOCK
Q9101
RESET
NTSC 1/525
PAL 1/625
V-TIMING BLOCK
FRAME SHIFT BLOCK
1/1135
1/4
PHASE COMPARATOR
EX.SNCK CONTROL BLOCK
TEST CIRCUIT
MODE SET
VDD
TEST1 TEST2
EXT NP
GND
HT2
HT1
HTR
DS1
DS2
CS1
CS2
CS3
ECK
A2
A1
A0
A3
A4
A5
RVC
HD
CP1
CP2
CP3
PBLK
CBLK
CSYNC
BF
VD
FLD
LALT
PSP
VIM1
VIM3
VI1
VI3
VI2
VI4
VS4
VS1
VS2
VS3
SC1
SC2
PC0
MIX
IC906
IC908
CA2(CBLK)
IC902
LB8901M
VCC5
GND
VS3
VS2
VS1
VS4
VI4
VI2
VI3
VI1
VIS
VIF
VCC4
VCC3
ØS3
ØS2
ØS1
ØS4
Ø4
Ø2
Ø3
Ø1
VCC1
VCC2
D9107, D9108
CLAMP
+6V
IC903
LB8902
ØH2
ØH1
ØR
+8V
+5V
D9109
CLAMP
+4V
VR901
OFD
Q9103
PULSE AMP
D9101
CLAMP
+9V
SUB
OFD
Ø1
Ø3
1 ELEMENT
IMAGER
BLACK MASKED SECTION
4 ELEMENTS
2 ELEMENTS
32 ELEMENTS
CHARGE STORAGE
H.SHFT RESISTOR (CCD)
OUTPUT
ØR
VDD
OUT
18V
Q9106
VCC
VSS
OG
ØK1
ØK2
IG
ID
OGL
VR902
Ø2
Ø4
ØS4
ØS1
ØS2
ØS3
IC904
LC9965
IC905 LA7264M
VDD
D9102
+8
Nega
Posi
DS2
DS1
S/H
CCD IN
L9103
C9130
28MHz TRAP
IN
IRIS
OPB CLAMP
BLK
AGC
S/H
DET
AGC REF.V
AGC
VR905
COLOR SEPARATION SAMPLING PULSE
MOIRE BALANCE ADJ
P.BLK
DBQ
VR904
WB ADJ
IC906
R
G
B
WC BLK PED
CWC
VR921
YJZ
VR924
VPD
VR903
CPD
VR906
BPD
VR907
RPD
VR908
IC907
AMP
Q9110
BUFF
T9101
3.6MHz LPF
CA2 (YIRIS)
CA2 (AGC.C)
Q9111
CLAMP
IC960
IC959
IC955
IC954
C9157
C9156
DET
AMP
TWR
VR913
TWB
VR914
S9101
BWG
VR916
RWG
VR915
IC956
SW
IC911
INVERSION AMP
VR917
SWG
IC957
OP AMP (Ye/Cy)
SWO
VR918
IC958
NIGHT ILLUMINATION DET
HLI
VR919
IC912
LA6600M
Vref
VCC
VOR
VOG
VOB
GND
VINR
VING
VING
Vref
WB SENSOR
Cy
W
Ye
C
D9106
CA2 (14MHz)
LINE DISCRIMINATION PULSE
4FSC
BF
LALT
BURST PHASE GAIN ADJ
BTG
VR920
HUE
VR910
IC908
LA7266M
SC
SUB CARRIER BURST GENERATOR
Burst
BCL
VR912
PDC
VR927
CLIP ADJ
VR922
BYG
RYG
VR923
R
G
B
PED CLIP
LINEAR MAT
R-Y
B-Y
LPF
CLAMP MOD
BASE CLIP LOW ILLUMINANCE CHROMA SUPPRESSION
HIGH ILLUMINANCE CHROMA SUPPRESSION
FADER
Q9109
BUFF
CA2 (C OUT)
REF.V
HLS
VR909
YL
YH
CLAMP
CONTROL SIGNAL GENERATOR
AMP BASE CLIP
CLAMP BLK WC PED
DRIVER
Y VIDEO OUT
CA2 (Y OUT)
D.L
T9102
APL
VR911
CP3 C.BLK
C.SYNC
CA2 (YAF)

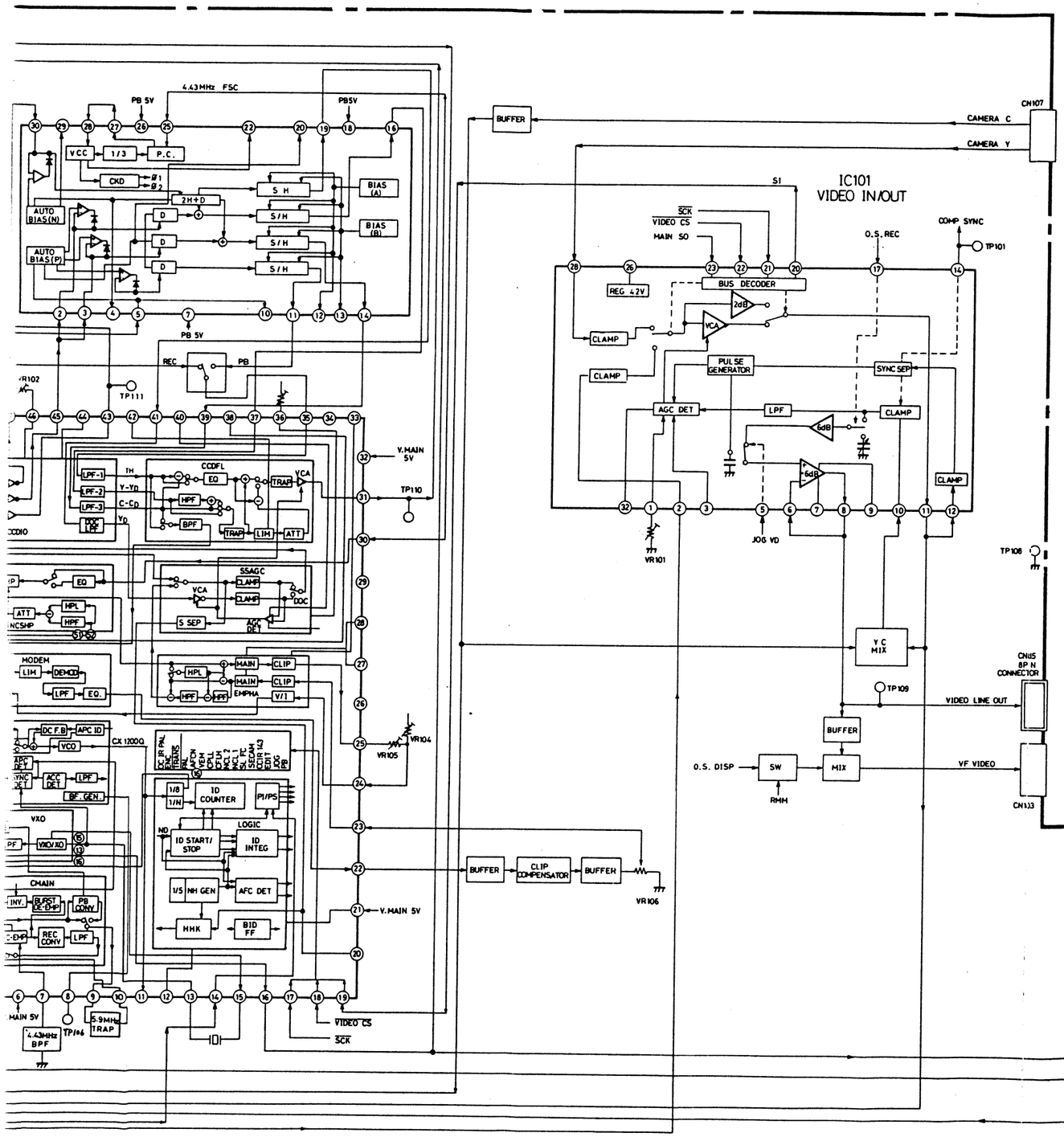
3-3. Camera Block(2)



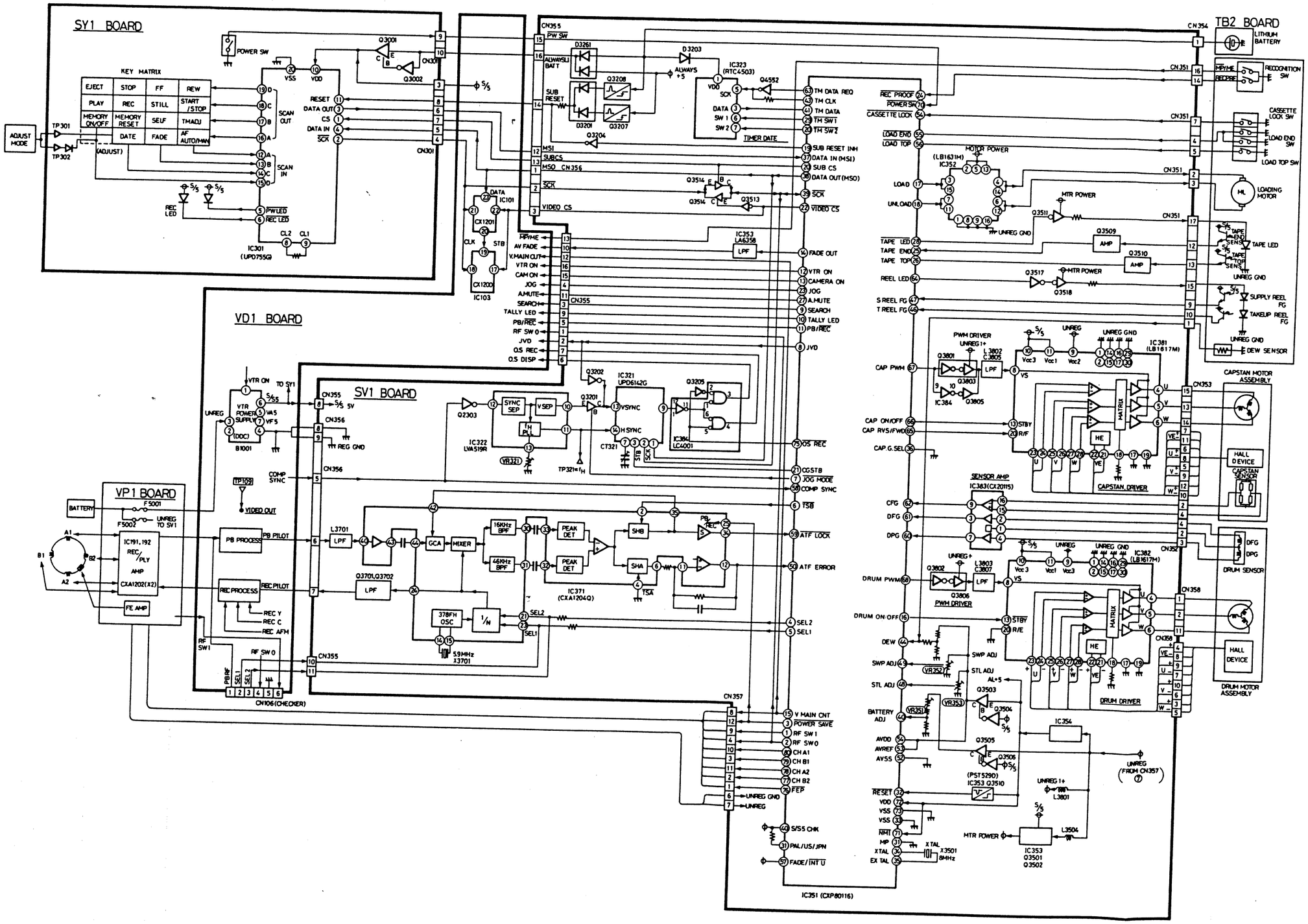

Q9201, Q9202
200KHz HPF 1
Q9203
600KHz HPF 2
IC922 LC9123
20 Bit Full Adder
20 Bit Register x 6
6 to 1 Multiplexer X 20
6 to 1 Multiplexer X 16
Clock Controller
H-Counter
V-Counter
Area Decoder
CPU Interface
Analog Multiplexer
SI
SIO
SCLK
INT
IOMODE
+5V
DISPAR
X
X0
X1
X2
X2CLP
T9201
WITH 3.6MHz TRAP LPF
IC923 LC89066
ANI
VRH
5V
COMPARATORS
LATCHES
ENCODER LOGIC
OUTPUT REGISTERS
D1~D6
VRL
CLK
Clock Driver
VDD
GND
CA1 (YIris)
IC929
AMP
C9225
CLAMP
Q9216
DET
IC929
IRIS DRIVE
+8V
IRIS COIL
Q9216
CONTROL VOLT GENERATOR
Q9218 Q9217
CONTROL VOLT GENERATOR
CA1 (AGC.C)
IC921
P2.0
P2.7
PORT 2
P0.0
P0.7
PORT 0
XTAL 1
XTAL 2
ALE
PSEN
EA
RESET
OSC and TIMING
PCON
P1.0
P1.7
PORT 1
P3.0
P3.7
PORT 3
PCHL
PCLL
PCH
PCL
ROM
4096WORD×8bit
ADDRESS DECODER
SENSE AMP
CONTROL SIGNALS
R/W SIGNALS
PLA
SPECIAL FUNCTION REGISTER ADDRESS DECODER
IR
AIR
C ROM
DPH
DPL
SP
R/W AMP
RAM
128WORD
×8bit
ADDRESS DECODER
RAMDP
ACC
TR2
TR1
PSW
ALU
BR
TH1
TL1
TH0
TL0
TMOD
TCON
IE
IP
TIMER / COUNTER
INTERRUPT
SBUF (T)
SBUF (R)
SCON
SERIAL IO
P3,P2
Zoom SW
Q9208,Q9209
P4
SPEED CONTROL
IC928
P1,P0
DRIVER
AF MOTOR
IC926
IC927
P5
ROTATION DET
Q9214,Q9213
P1,P0
DRIVER
Zoom MOTOR
P4
FOCUS END DET
P7,P6
Zoom Area SW
P5
SY1
(AF A/M)
P2
AF A/M SELECT
P3
AF Push SW

3-4. Video Block

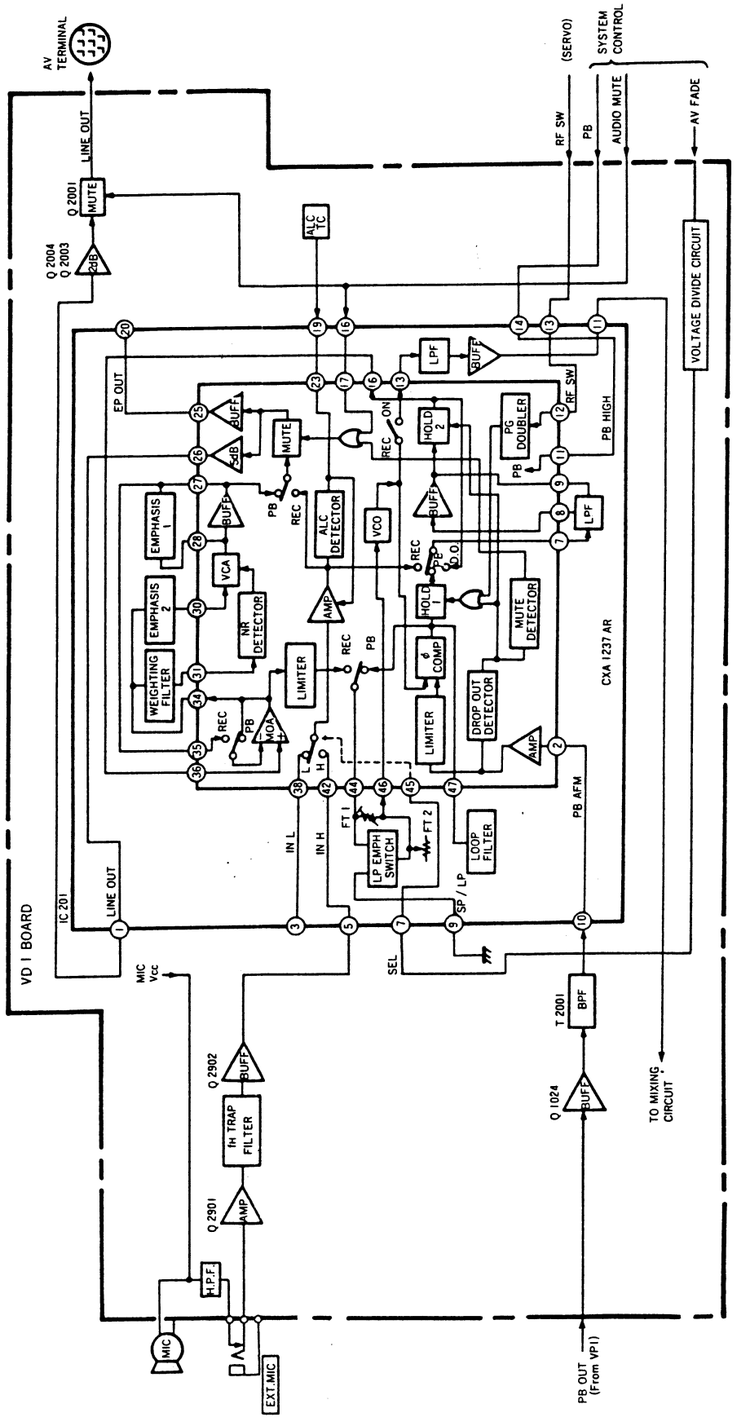



IC101
VIDEO IN/OUT
BUFFER
CAMERA C
CAMERA Y
CN107
SI
SCK
VIDEO CS
MAIN SO
COMP SYNC
TP101
O.S. REC
REG 42V
BUS DECODER
2dB
VCA
CLAMP
PULSE GENERATOR
SYNC SEP
AGC DET
LPF
6dB
JOG VD
VR101
TP108
Y C MIX
CN105 BP N CONNECTOR
TP109
VIDEO LINE OUT
BUFFER
O.S. DISP
SW
MIX
VF VIDEO
RMM
CN133
PB 5V
443MHz FSC
VCC
1/3
P.C.
CKD
S H
S/H
D
2H+D
BIAS (A)
BIAS (B)
AUTO BIAS(N)
AUTO BIAS(P)
REC
PB
TP111
V.MAIN 5V
TP110
CCDFL
LPF-1
LPF-2
LPF-3
TRAP
EQ
HPF
BPF
LIM
ATT
VCA
SSAGC
CLAMP
DOC
S SEP
AGC DET
MODEM
DEMOD
EMPHA
CLIP
V/I
DC F.B
APC ID
VCO
ACC DET
BF. GEN
CX 12000
VR104
VR105
1/8
1/N
ID COUNTER
PI/PS
LOGIC
ID START/ STOP
ID INTEG
1/5 NH GEN
AFC DET
HHK
BID FF
VXO
VXO
CMAIN
BURST DE-EMP
PB CONV
REC CONV
MAIN 5V
5.9MHz TRAP
4.43MHz BPF
TP106
VIDEO CS
SCK
BUFFER
CLIP COMPENSATOR
BUFFER
VR106
V.MAIN 5V
IC142 PAL JOG
FM DEMOD
BELL IN
CONT
SECAM IN
LPF1
Normal
SWD1/2FHT
SWD1/2FHM
1/2FHTAB
1/2FHM
1/2
XFHM
TH/DL
VCO
Peak Hold
CLG PLS
Clamp
CLP PLS
S/H
HD
LPF
SA CONT
1/2FHM
PALM
V-I1
-90°
LIM1
REC
PB
LIM
MODE
XPB PB
PB 5V
JOG/ PB/ REC
BELL
PB (PAL)
REC (5e)
×2
AMP
TH/DL (1/2FHTA)
Jump P.D
Scram P.D
SECAM DETPLS 1/2FHT
1/2 FHT
LPF2 S/H
TEST RST Normal
AFC I.D
MASK 75-2
75 %/ 150 %
75 %/ MASK 2
MASK 75-1
75 %/ MASK1
EDGE TRIG
BF Gen
SECAM
S O P.D
LPF3
LIM2
Dummy
CONV1
V-I2
PALM
TH/DL
LPF 2
BF
SWD 1/2FHM
PAL
SW
CW DL TH
BF Xch
TH/DL (1/2FHTL)
MAIN SW
4.43MHz B.P.F.
AMP
BUFFER
JOG HD
BUFFER
JOG HD
DOP

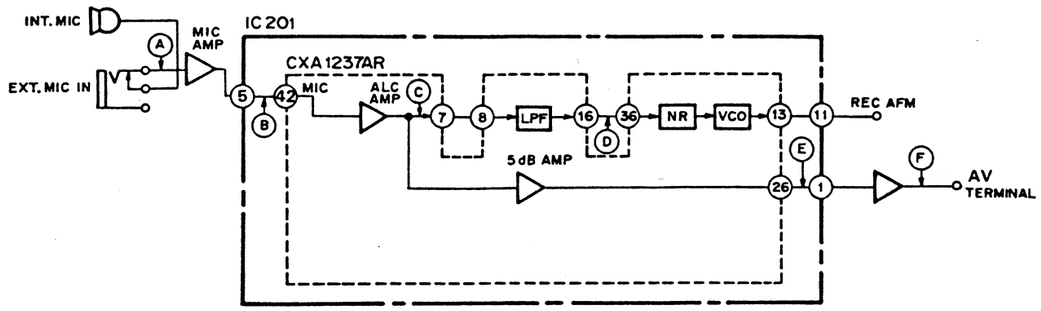
3-5. Servo/System Control Block

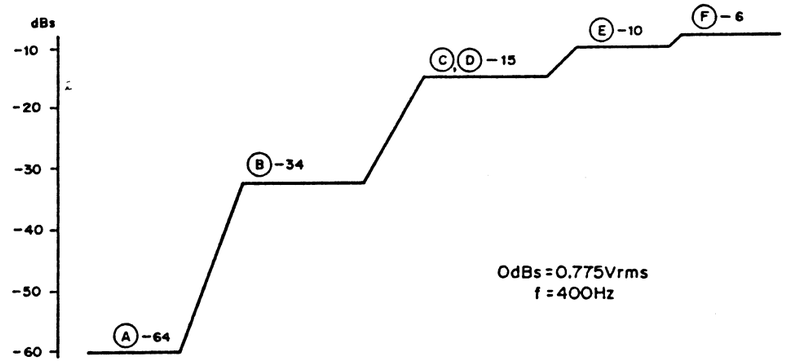


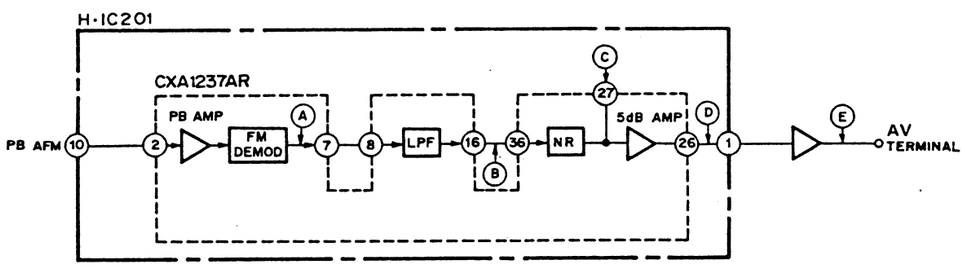
3-6. Audio Block

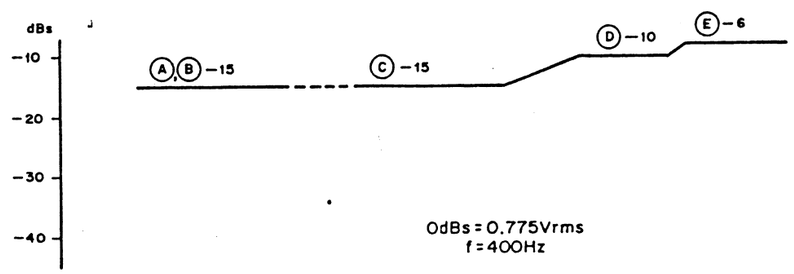


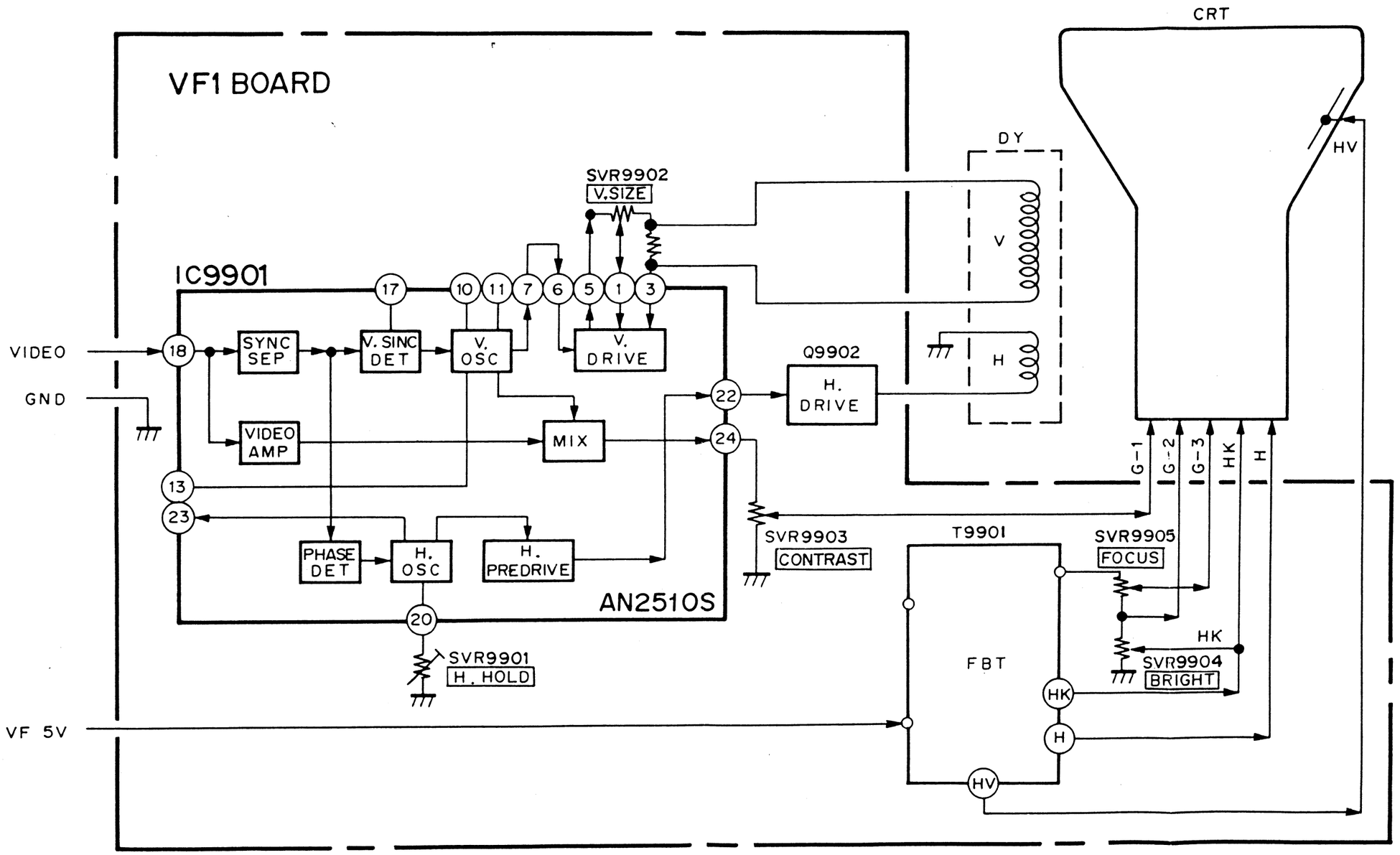
3-7. Audio Level Block










VF1 BOARD
IC9901
CRT
DY
V
H
HV
SVR9902
V.SIZE
VIDEO
GND
18
17
10
11
7
6
5
1
3
SYNC SEP
V. SINC DET
V. OSC
V. DRIVE
VIDEO AMP
MIX
22
24
Q9902
H. DRIVE
13
23
PHASE DET
H. OSC
H. PREDRIVE
20
AN2510S
SVR9901
H. HOLD
SVR9903
CONTRAST
T9901
FBT
SVR9905
FOCUS
HK
SVR9904
BRIGHT
G-1
G-2
G-3
HK
H
HK
H
HV
VF 5V

4. ADJUSTMENTS

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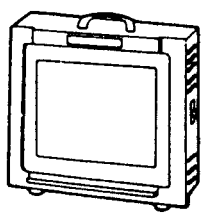
1. CAMERA SECTION ADJUSTMENTS

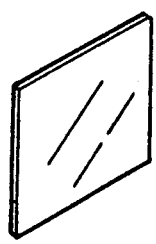
1-1. Service Jigs List

Ref. No.	Name	Part Code	Application
J-1	Color Viewer 5100°K	VJ8-0007	Overall
J-2	Filter (LBA-8)	VJ8-0002	Sensor white balance Adjustment
J-3	Gray Scale	VJ8-0010	White balance adjustment
J-4	Color Bar Chart	VJ8-0009	Chroma level adjustment
J-5	Camera Block Fixing Jig	VJ8-0060	Camera block locking
J-6	PCB Extention Cord	VJ8-0056	Camera block extension
J-7	Socket Extractor Jig	VJ8-0030	Socket removal
J-8	Pan Head	VJ8-0020	Camera block locking
J-9	PCB Extension Cord	VJ8-0055	Camera PCB extension
J-10	PCB Extension Cord	VJ8-0057	Camera PCB extension
J-11	TP Check PCB	VJ8-0064	TP measurement

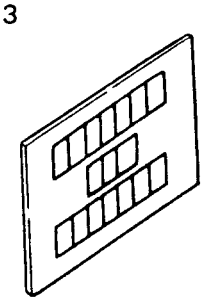
J-1



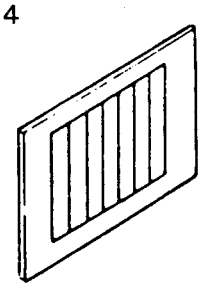
J-2



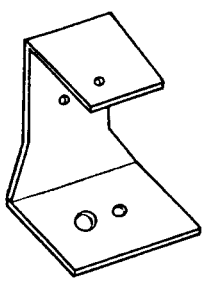
J-3



J-4



J-5



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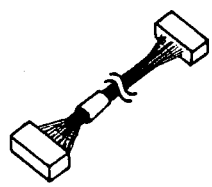
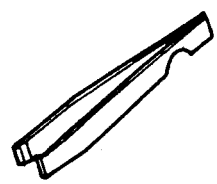


J-7



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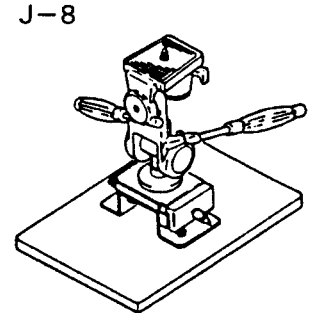

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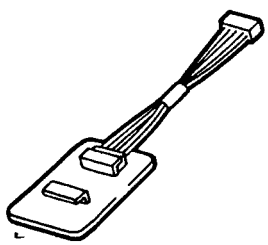

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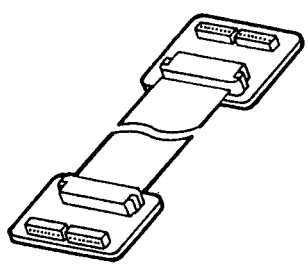


J-11

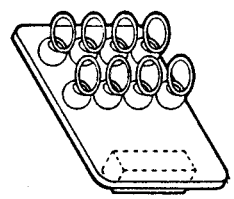


Table 1-1.

1−2. Equipment Required

1. Oscilloscope
2. Color Monitor
3. RF Adaptor (supplied with this unit)

※ Use of Vector scope is recommended.

1−3. Adjusting Procedure

1. OB offset adjustment
2. Black balance adjustment
3. White balance adjustment
4. Y level adjustment
5. Chroma level adjustment
6. Sensor white balance adjustment
7. Flange back adjustment
8. Flickerless adjustment

1−4. Setup and Connections

Refer to Section 2. REMOVAL PROCEDURE for removing cabinets and PC boards.

1) Referring to Fig. 1−1., attach the camera to the jig J−5.
2) Set up the camera as shown in Fig. 1−2.

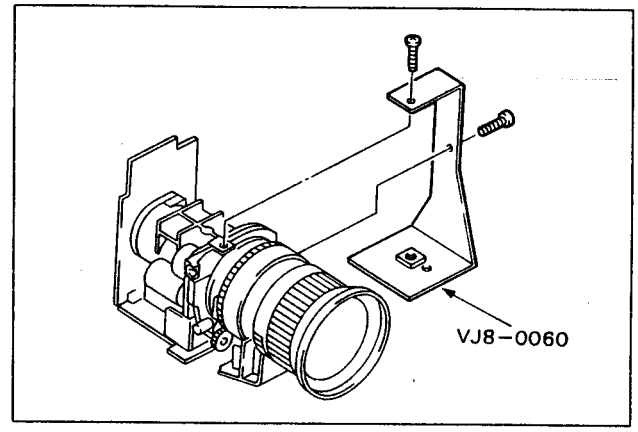


Fig. 1−1.

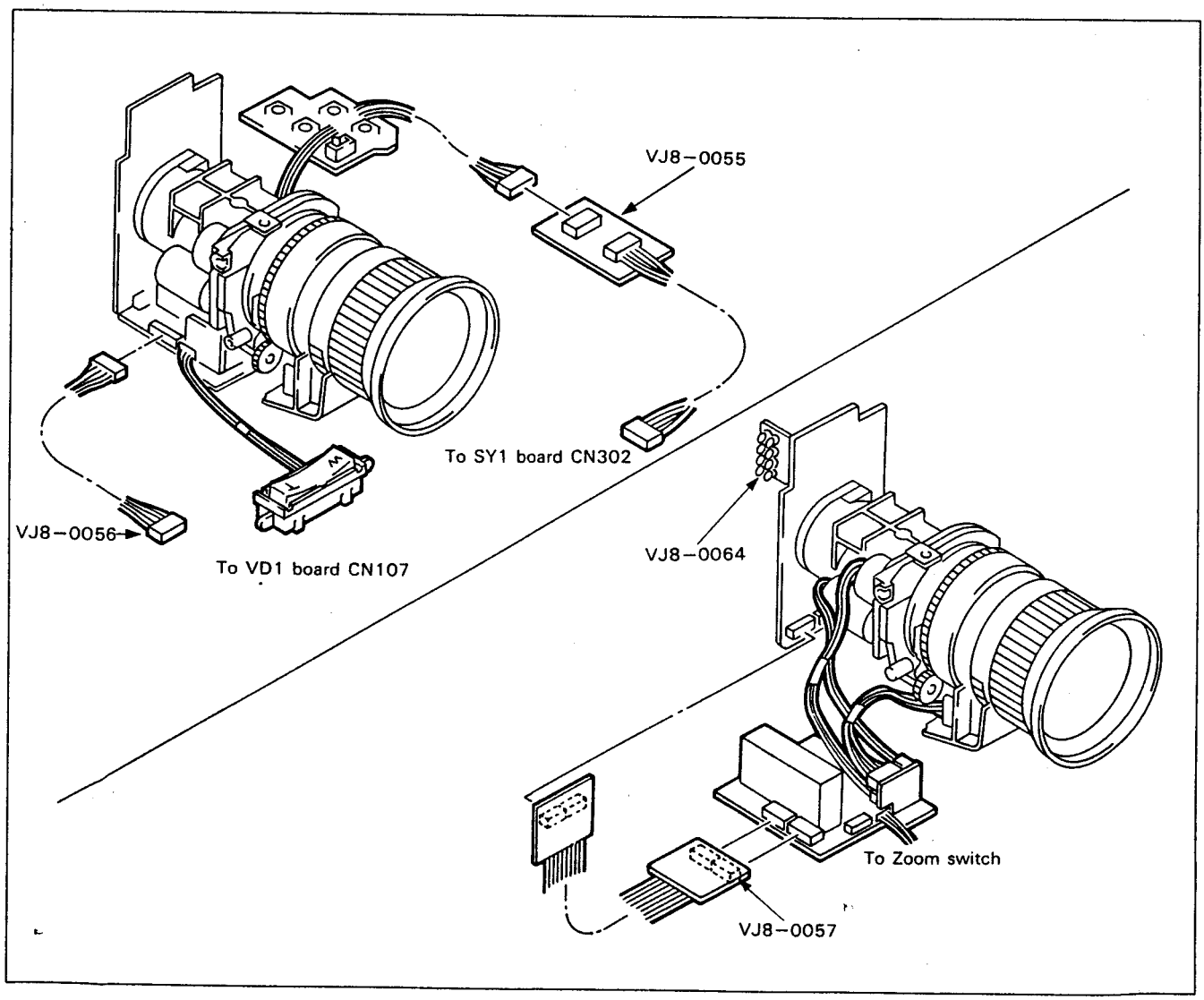


Fig. 1−2.

3) Interconnection

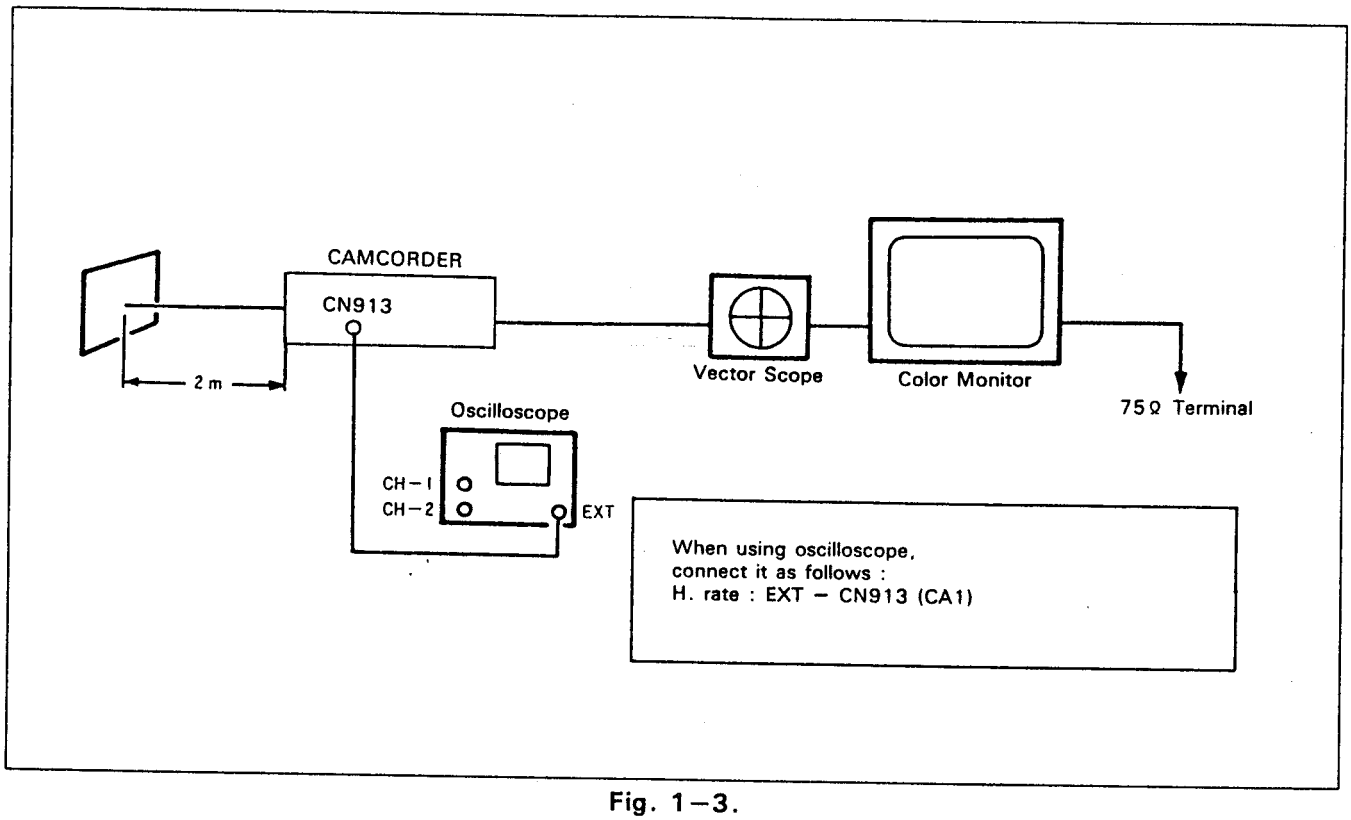


Fig. 1–3.

1–5. Precautions

① Set the frame as shown in Fig. 1–4. below unless specified otherwise.

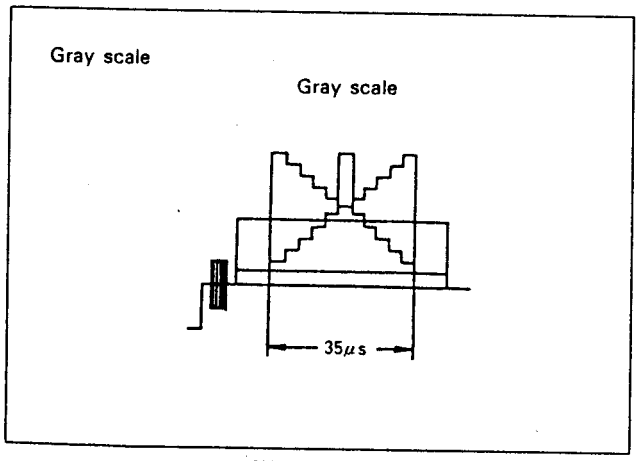


Fig. 1–4.

② Set FOCUS switch to Manual

③ Set potentiometers as shown below.
- VR912 (BCL) : Center
- VR909 (HLS) : Approx. 90 degrees clockwise from the center
- VR919 (HLI) : Fully clockwise from the center
- VR901 (OFD) : Approx. 90 degrees counterclockwise from the center
- VR921 (CWC): Center
- VR924 (Yγ2) : Center
- VR911 (APL) : Approx. 90 degrees counterclockwise from the center
- VR926 (Yγ1) : Center
- VR927 (PDC) : Adjust to 2.35 ± 0.05V of the center
- VR905 (AGC) : Center

④ Set S9101 (WBS) to the upper position.

Remember to set it back to the lower position after adjustments.

⑤ Connect TP921 (AES) to GND.

⑥ Allow at least 10 minutes for warmup.

⑦ "SYNC Ref" stated in the adjustment procedure stands for a value given as a percentage with the SYNC level on the scope being assumed at 30 percent.

⑧ "AGC off" stated in the adjustment procedure stands for the status with TP908 and TP901 shorted together. And "AGC ON" under an open status.

⑨ Make adjustment under the status with shield plate being attached.

Caution : Set the cursors of the remaining potentiometers to their mid point when adjusting the unit for the first time after having replaced a PC board or major part.

1−6. OB Offset Adjustment

Instrument : Oscilloscope
Measuring points : TP904 (AGC),
Y Output (CN912⑥)
Adjusting VR : VR904 (OBO), VR905 (AGC),
VR902 (OGL)

Setup :

① Cap the lens.
② Monitor the waveform on TP904 (AGC) on oscilloscope (10μS/0.5V/div).
③ Monitor Y output (CN912⑥) on oscilloscope (10μS/0.1V/div).

Adjusting procedure :

1) Rotating VR902 (OGL) clockwise from extreme counterclockwise, point adjust for 0 level of pulse in H blanking signals on TP904, as shown in Fig.1−5. Further advance the VR until the wiper reads 1V below that of 0 pulse point (approx. 20 degrees).
2) Adjust VR904 (OBO) so that the blanking pulse and signal are equal to each other in level on TP904. (See Fig. 1−5.)
3) While switching AGC from off to ON, note the change in setup level on Y output.
4) If the change is −2% or positive with respect to SYNC Ref., slightly decrease setup level with VR904. If less than −2% and negative, slightly increase the level.
5) Repeat steps 3) and 4) until the setup level varies by −2% when AGC is switched from off to ON.

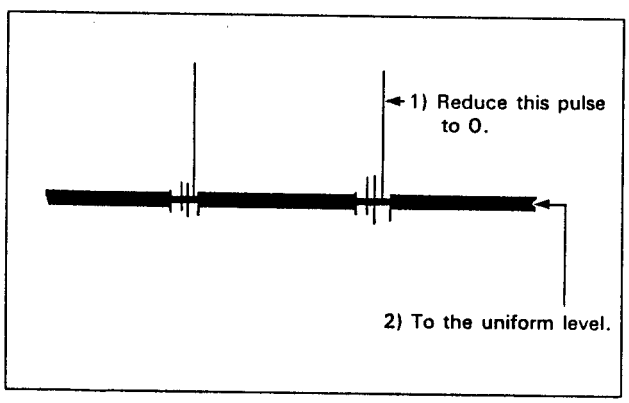


Fig. 1−5.

1−7. PLL Lock Voltage Adjustment

Instrument : Oscilloscope
Measuring point : TP941 (PLL)
Adjusting CT : CT941 (PLL)
Adjusting procedure :

1) Adjust CT941 (PLL) for 2.40 ± 0.02V on TP941.

1−8. Black Balance Adjustment

Instrument : Oscilloscope
Measuring point : TP906 (G OUT)
Adjusting VR : VR906 (GPD), VR907 (BPD),
VR908 (RPD)

Setup :

① Cap the lens.
② Turn AGC off.
③ Monitor TP906 (G OUT) on the oscilloscope (10μS/0.1V/div).
④ Monitor TP902 (R−Y) and TP903 (B−Y) simultaneously on the oscilloscope (10μS/0.05V/div).

Adjusting procedure :

1) Adjust VR906 (GPD) so that the center of the signal of TP906 coincides with the blanking level.
2) Adjust VR907 (BPD) and VR908 (RPD) so that the center of the signals of TP902 and TP903 remain at the blanking level.

1−9. OFD Voltage Adjustment

Instrument : Monitor TV
Subject to be shot : 5100°K viewer
(without chart)
Adjusting VR : VR901 (OFD)
Adjusting procedure :

1) Shoot the viewer located in a dark room at the image angle of approx. 1/5H.
2) Set VR901 to the right end position, and turn the blurring and burr appearing in the lower part of the viewer counterclockwise so that they will disappear in the viewer. (See Fig. 1−6.)

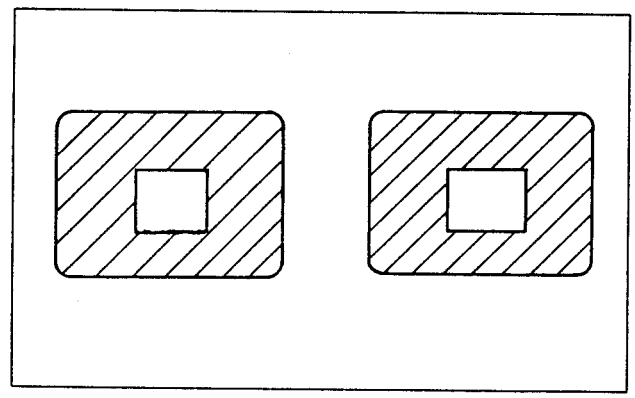


Fig. 1−6.

1−10. White Balance Adjustment

Instrument : Oscilloscope
Subject to be shot : 5100°K viewer, Gray scale
Adjusting VR : VR915 (RWG), VR916 (BWG),
VR905 (AGC), VR913 (TWR),
VR914 (TWB), VR921 (CWC),

Setup :

① Use the 5100°K viewer for full screen without using the chart.
② Turn AGC ON.
③ Monitor TP902 (R−Y) and TP903 (B−Y) simultaneously on the oscilloscope (10μS/0.05V/div).

④ Monitor TP904 (AGC) on the oscilloscope (10μS/0.1V/div).

Adjusting procedure :

1) Adjust VR905 (AGC) for 240mVp-p signal level on TP904.
2) Set S9101 at the upper. Adjust VR915 (RWG) and VR916 (BWG) so that the centers of signals on TP902 and TP903 are on the blanking level.
3) Set S9101 at the lower. Adjust VR913 (TWR) and VR914 (TWB) so that the centers of signals on TP902 and TP 903 are on the blanking level.
4) While shooting the-gray scale at a right angle to the 30μs size, adjust VR921 (CWC) so that the waveforms on TP902 and TP903 are almost linear : The signal levels adjacent to the gray scale on TP906 (G OUT) should not change after adjustment.
5) Attach the lens cap and turn AGC off.
6) Confirm well balanced black signal levels on TP902 and TP903. If not, readjust VR907 (BPD) and VR908 (RPD).

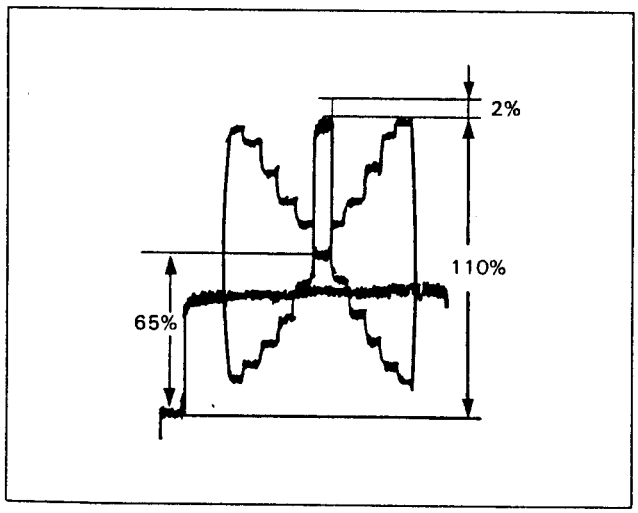


Fig. 1−7.

1−11. Y Level Adjustment

Instrument : Oscilloscope
Subject to be shot : 5100°K viewer, Gray scale
Adjusting VR : VR924 (Yγ2), VR926 (Yγ1), VR903 (YPD), VR911 (APL)

Setup :

① Shoot the gray scale for a standard size.
② Monitor Y OUT (CN912⑥) on the oscilloscope (10μs/0.5V/div).

Adjusting procedure :

1) Cap the lens and turn AGC off.
2) Adjust VR903 (YPD) for 5% setup level with respect to SYNC Ref.
3) Remove the lens cap and turn AGC ON.
4) Using VR926 (Yγ1), adjust the 6th level(center level) of grey scale so that it will be 48% of pedestal level on SYNC standard.
5) Using VR924 (Yγ2), adjust the peak level of gray scale so that it will be 75% of pedestal level on SYNC standard.
6) Turn AGC off. Adjust VR911 (APL) so that the overshoot occuring at the right of white waveform in the center of gray scale is 2% in SYNC base.

Notes :

1. The level (65%) set in step 4) may decrease during step 5). Leave the level as it goes down.
2. Make adjustment in step 6) with correct focusing.

1−12. Chroma Level Adjustment

Instrument : Oscilloscope, Monitor TV
Subject to be shot : Color bar chart
Adjusting VR : VR922 (BYG), VR923 (RYG), VR910 (HUE), VR920 (BTG), VR909 (HLS)

Setup :

① Shoot the color bar chart with 41μs size. (See Fig. 1−7.) (without white chart part)
② Set S9101 to the lower.
③ Turn AGC ON.
④ Monitor C OUT (CN912⑧) on the oscilloscope (10μS/0.1V/div).

Adjusting procedure :

1) Adjust VR920 (BTG) for 300mVp-p burst level.
2) Adjust VR922 (BYG) for 500mVp-p blue level. Adjust VR923 (RYG) for 650mVp-p red level.
3) Using VR910 (HUE), adjust color phase of red and magenta to the chart (visually to monitor TV).
4) Slightly lower yellow level with VR909 (HLS).

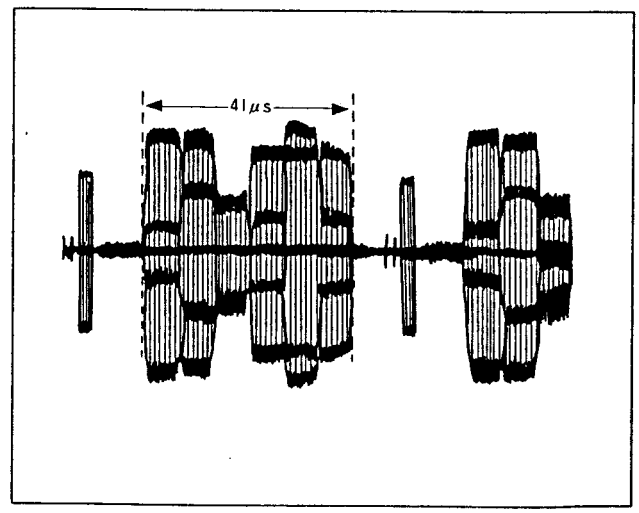


Fig. 1−8.

Note :

Should the burst level vary during color phase adjustment, readjust it.

1−13. Low -chroma Suppression Adjustment

Instrument : Ocilloscope
Subject to be shot : 5100°K viewer
Adjusting VR : VR912 (BCL)
Setup :

① Shoot the 5100°K viewer for full screen.
② Monitor C OUT (CN912 ⑧) on the ocilloscope (10μs/0.05V/div).

Adjusting procedure :

1) Adjust VR912 (BCL) so that the peak level of C OUT is 50mVp-p.

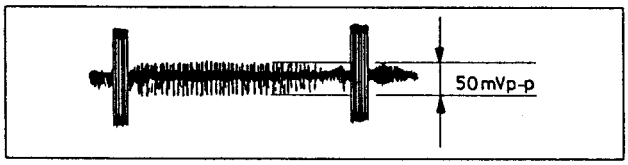


Fig. 1−9.

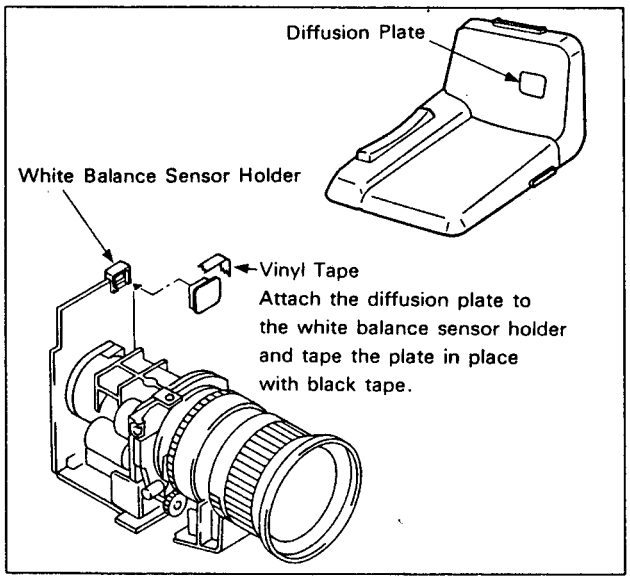

Diffusion Plate
White Balance Sensor Holder
Vinyl Tape
Attach the diffusion plate to the white balance sensor holder and tape the plate in place with black tape.

Fig. 1−10.

1−14. Sensor White Balance Adjustment

Instrument : Oscilloscope (Vector scope)
Subject to be shot : 5100°K viewer, Filter (LBA−8) X2 (J−2)
Adjusting VR : VR919 (HLI), VR918 (SWO), VR917 (SWG)
Setup :

① Shoot the 5100°K viewer for full screen.
② Make the surroundings dark so that only light from the viewer enters th sensor.
③ Turn AGC ON.
④ Monitor TP902 (R−Y) and TP903 (B−Y) simultaneously on the oscilloscope (10μs/0.05V/div).
⑤ Set S9101 to the upper.
⑥ Remove the diffusion plate (white) from the cabinet and attach it to the white balance sensor.

Adjusting procedure :

1) Adjust VR915 (RWG) and VR916 (BWG) so that the center of the waveform on TP902 and TP903 are on the blanking level.
2) Adjust VR919 (HLI) so that the level on TP907 (HLI) is high (approx. 5V).
3) Adjust VR918 (SWO) so that the center of the waveform on TP902 and TP903 are on the blanking level.
4) Cover the lens and sensor with their respective filters. Adjust VR917 (SWG) so that the center of the signals on TP902 and TP903 are nearly on the blanking level. If the VR cannot bring either of the signals to the center, readjust the VR so that R−Y is on the positive side and B−Y on the negative side.
5) Set the sensor illumination intensity to approx. 1,000 lux (equal to the intensity when the lens face is pressed directly against the 5100°K viewer.)
6) Adjust VR919 (HLI) so that TP907 decreases from +4.7V to 0V.
   Do not overturn the VR.
7) Set the sensor illumination intensity to approx. 700 lux (equal to the intensity when the 5100° K viewer is placed approx. 5 cm apart from the lens face.)
8) Verify that TP907 returns to 4.7V.

1−15. Flange Back Adjustment

Instrument : Siemens star, Tools
Hexagonal wrench,
Flat head screwdriver

Adjusting procedure :

1) Using hexagonal wrench, loosen hexagonal socket screw on the rear of the lens.
2) Place subjects such as Siemens star at approx. 2m in front of the lens. Set focus ring for approx. 2m.
3) Set zoom to f≒20 and adjust focus by turning adjuster screw with the screwdriver.
4) Set the zoom to full TELE and focus with the focus ring.
5) Repeat steps 3) and 4) for unchanged focus.
6) Tightly holding adjuster screw with the screwdriver, tighten hexagonal socket screw with the hexagonal wrench.

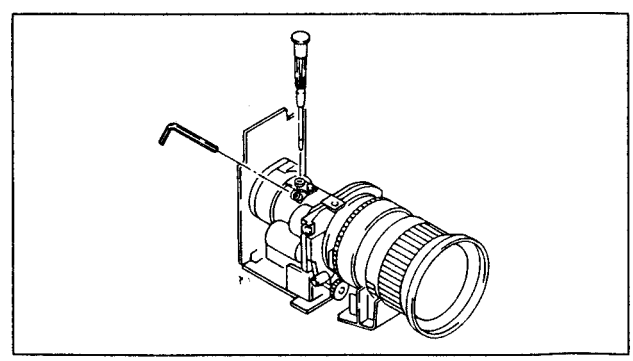


Fig. 1−11.

2. MECHANICAL ADJUSTMENTS

2−1. Cassette Mechanism (See Fig. 2−1.)

(1) Removal procedure

1) Remove screws 1 ① (2 pcs) then damper ②.
2) Remove Washers ③ (2 pcs) then pins ④ (2 pcs).
3) Slide rollers out ⑤ (2 pcs).

(2) Reinstallation procedure

1) Insert rollers ⑤ (2 pcs) into slots ⑥ (2 pcs) respectively in the reel chassis.
2) Inserts pins ④ (2 pcs) into holes ⑦ and slide Washer ③ (2 pcs) onto pins ④.
3) Attach damper ② and tighten screws ① (2 pcs).

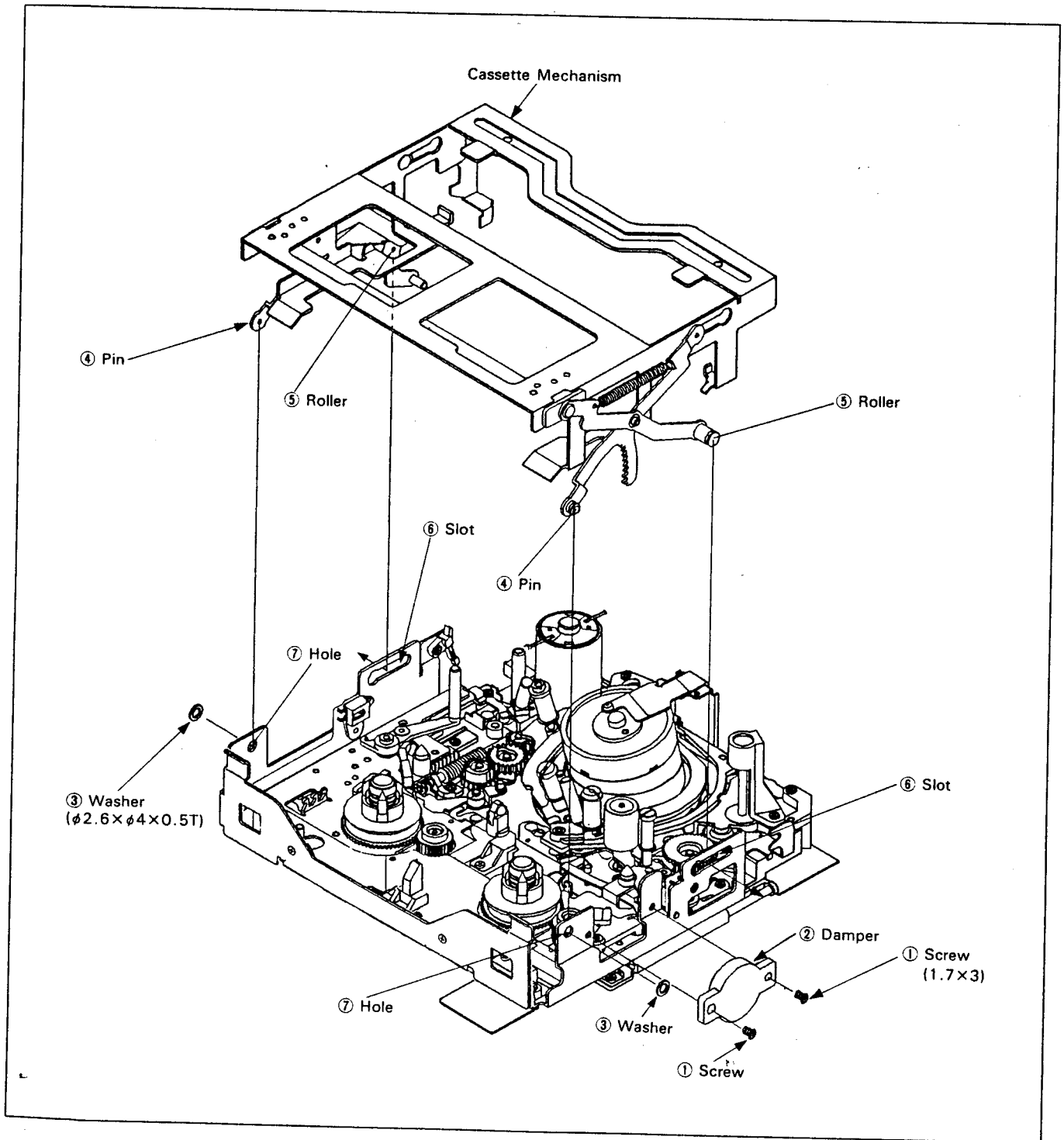


Fig. 2−1.

2−2. Removing Tape Loaded Cassette (See Fig. 2−2.)

1) Open the PC board at the rear of the main chassis.
2) Referring to para 2−4., connect the mode selector to FPC PC board.
   Note : One of boxed " [ ] " modes shown in Section 2−4. is selectable by a button. (See Fig. 2−5.)
3) In [STAND BY] mode move each tape guide, by a small amount at a time.
4) Using a cotton tipped applicator, rotate the rotor of capstan motor ① in the direction of the arrow to wind the tape loop around a cassette reel. (See Fig. 2−3.)
5) Repeat steps 2) and 3) until all the tape is wound up. Select [EJECT] mode and remove the cassette.

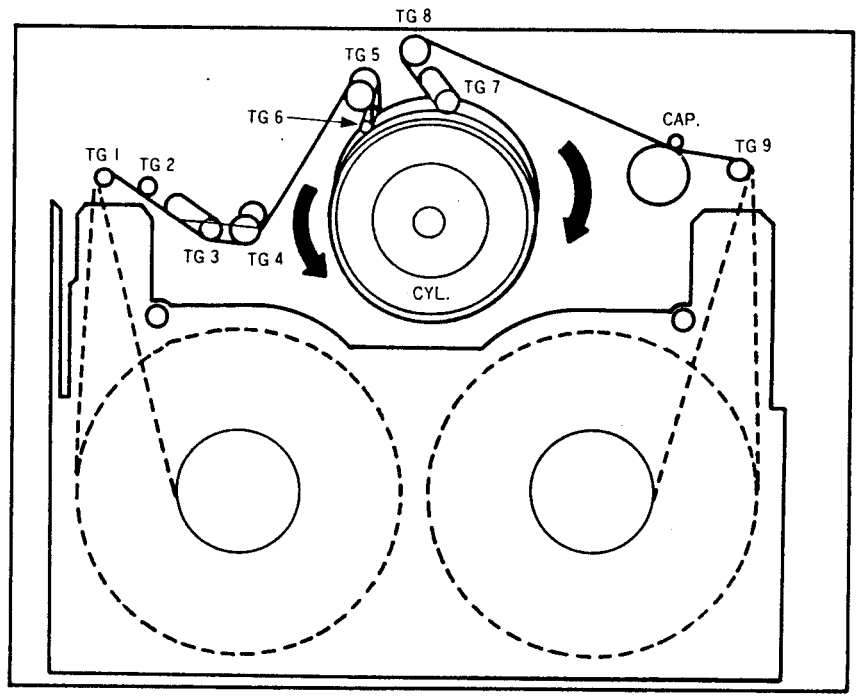


Fig. 2−2.

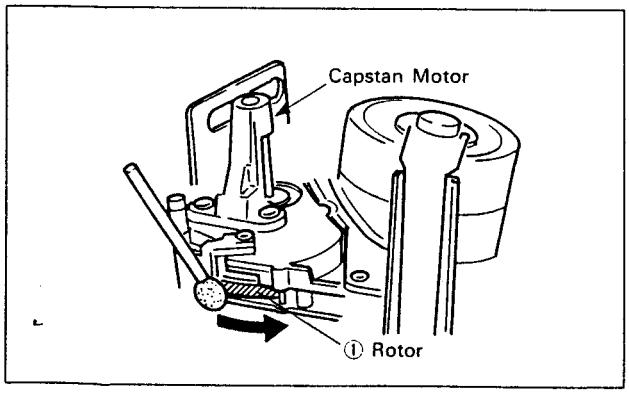


Fig. 2−3.

2–3. Operating Detached Cassette Mechanism

(1) Loading a tape (See Fig. 2–4.)

1) Supply power to the mechanism with the cabinet and camera disconnected to activate the mechanical deck.
2) Cover tape end sensors ① (2 pcs) with black tape ②.
3) Pressing down pins on push SW ③ (ON), secure the pins with adhesive tape ④.
4) Press cassette SW ⑤ in the direction of the arrow and the mechanism enters the loading mode.

(2) Putting into recording mode.

1) After completing steps in (1) "Loading a tape", turn the power SW on.
2) Short together TP301 and 302 of SY1 PC board.
3) Turn REC SW on.

(3) Ejecting cassette.

1) Turn EJECT SW on.

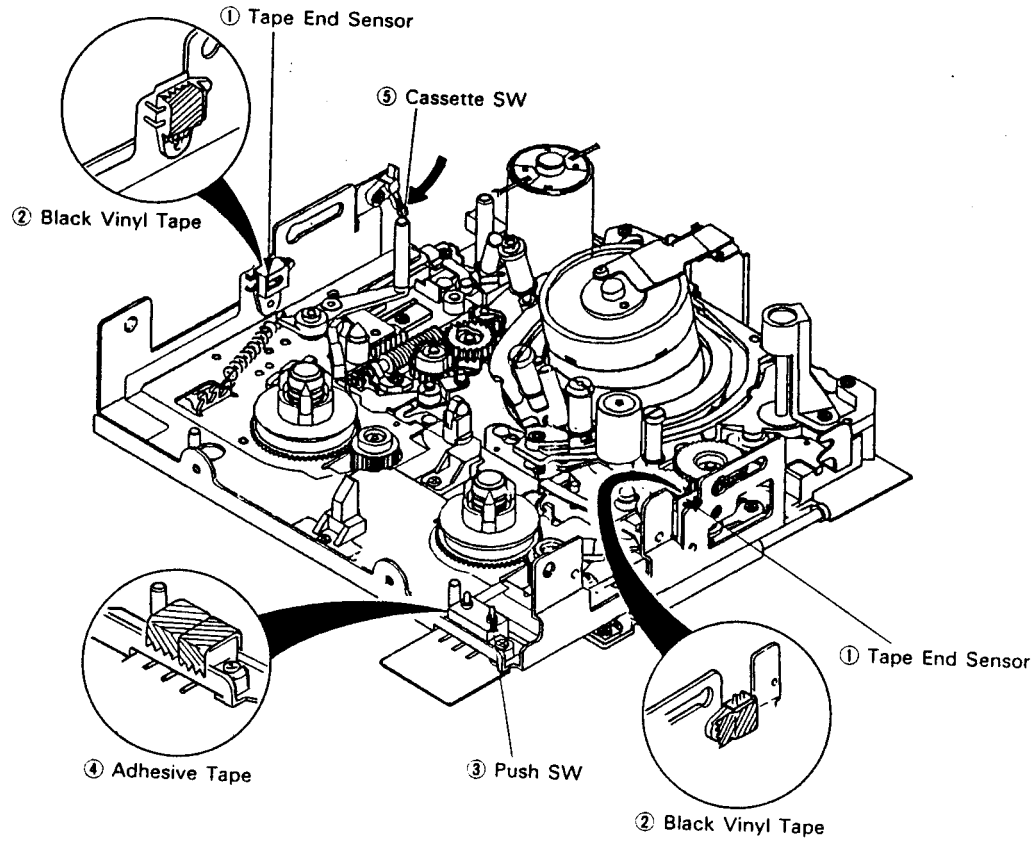


Fig. 2–4.

2−4. Connecting & Operating Mode Selector

This mechanism operates in one of four modes which should be selected as required in a removal step.

EJECT ↔ STAND BY ↔ READY ↔ REC

1) EJECT mode
   Simulates a condition under which unloading SW is being pressed and the motor is in stop mode (motor lock).
2) STANDBY mode
   Simulates a condition under which the loading SW is being tapped repeatedly at shorter intervals in EJECT mode. S and T shuttles (TG5,8) begin to move.
3) REC mode
   Simulates a condition under which the loading SW is being pressed and the motor is in stop mode (motor lock).

Note :
READY mode is similar to REC mode except that the pinch roller is disengaged : Select REC mode before entering the READY mode.

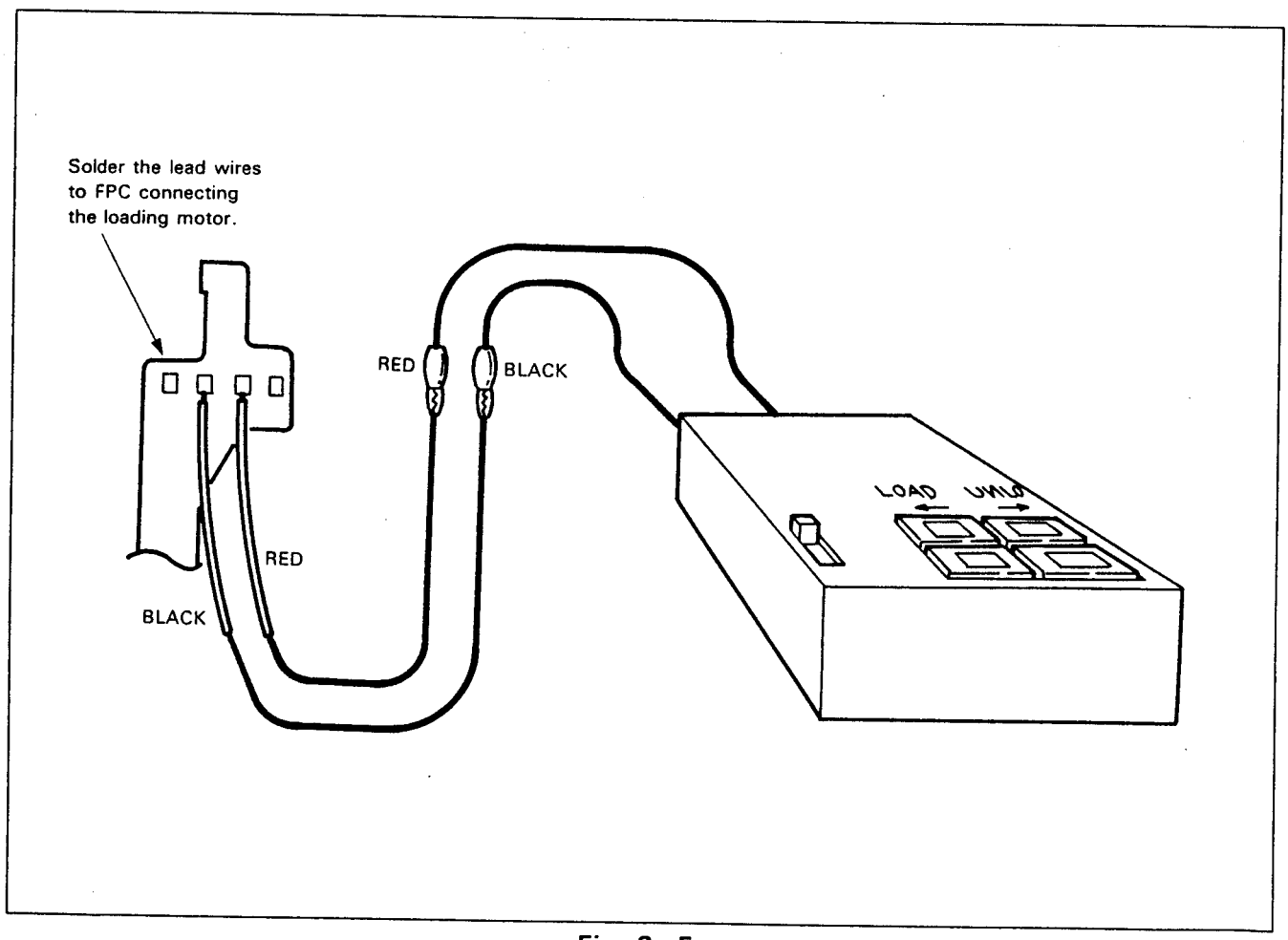


Fig. 2−5.

2−5. Periodic Check and Maintenance

- To keep the set at top performance with satisfactory functioning parts including the tape, perform the following maintenance and check steps periodically. Also follow the following procedure after any repair work regardless of operating time.

2−5−1. Cleaning cylinder

1) Lightly pressing a chamois leather (Ref. No. J−2) dampened with cleaning fluid (Ref. No. J−1), rotate the upper cylinder slowly in a counter-clockwise direction using your finger.

Notes : Do not turn the motor. Do not rotate the cylinder clockwise. Do not move the chamois leather vertically across the headtip. The headtip may be damaged. Follow the procedure described above.

2−5−2. Cleaning tape transporting system (See Fig. 2−6.)

1) In EJECT mode, clean tape transport system (TG-1, 2, 3, 4, 5, 6, 7, 8, 9, pinch roller and capstan shaft) with chamois leather be in dampened with a cleaning fluid.

Note : Be sure not to let the chamois leather be in contact with any oil or grease of the links.

2−5−3. Cleaning driving system

1) Clean the driving system (reel base top) with a cloth dampened with a cleaning fluid.

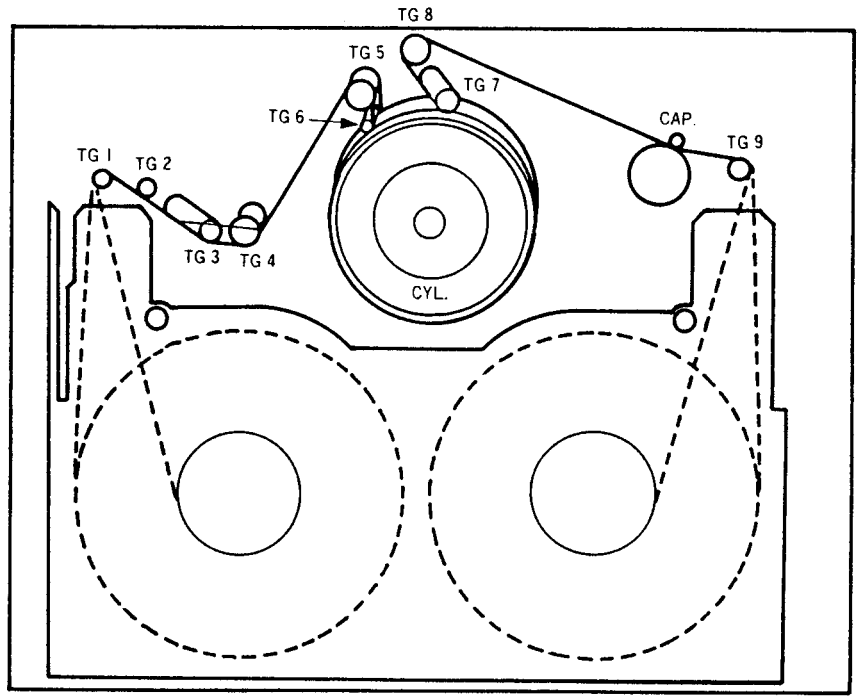


Fig. 2−6.

2−5−4. Items to be checked periodically

Maintenance and check		Operating time (Hours)										Remarks
		500	1,000	1,500	2,000	2,500	3,000	3,500	4,000	4,500	5,000	
	Cleaning of tape running faces	○	○	○	○	○	○	○	○	○	○	Keep oil-free
	Cleaning and degaussing of cylinder assy	○	○	○	○	○	○	○	○	○	○	Keep oil-free
Driving system	Capstan shaft	−	◎	−	◎	−	◎	−	◎	−	◎	Do not allow oil to be in contact with surfaces of the tape running system.
	Loading motor	−	☆	−	☆	−	☆	−	☆	−	☆	
Performance verification	Abnormal sound	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	
	Back tension measurement	−	☆	−	☆	−	☆	−	☆	−	☆	
	Brakings	−	☆	−	☆	−	☆	−	☆	−	☆	
	FWD & RVS torque measurement	−	☆	−	☆	−	☆	−	☆	−	☆	

○ Cleaning ◎ Lubrication ☆ Verification

Note : During overhaul, replace parts as required referring to the above table.

Notes : Oil considerations

- Do not apply oils other than those specified. Oil with viscosity different from the standard may cause problems.
  Standard oil ··· Maruzen oil Swafluid 100N (commercially available)
- Use only clean oil for bearings. Oil containing dust may lead to frozen shaft or worn shaft.
- A drop of oil is the amount of oil collecting on a 2mm dia rod tip as shown in Fig. 2−7.

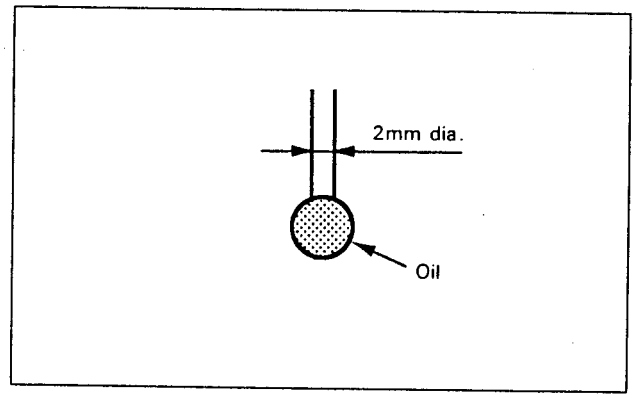


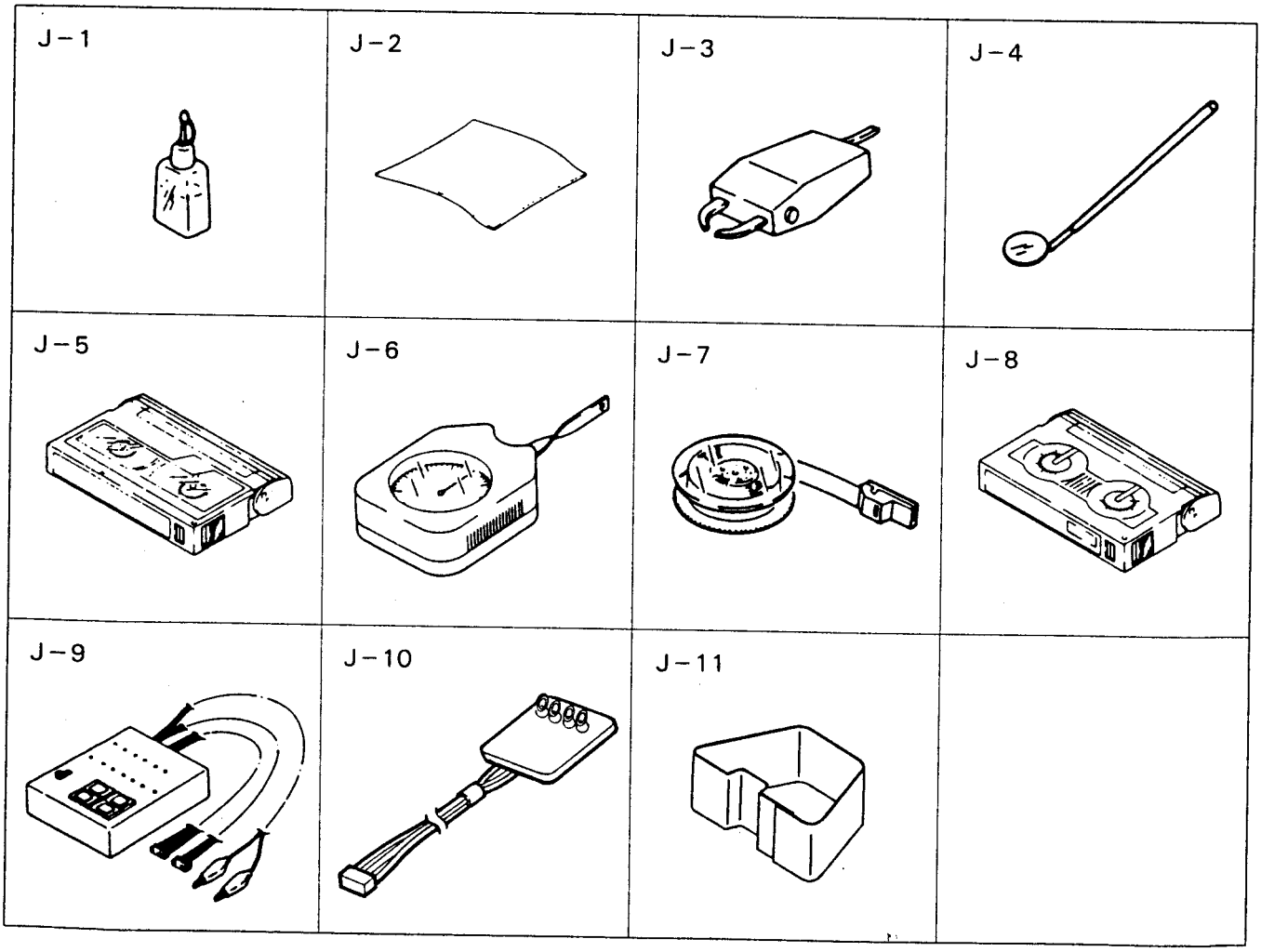
Fig. 2−7.

2-5-5. Service jig list

Ref. No.	Name	Part Code	Mark Engraved on Tool	Application, etc.
J - 1	Cleaning fluid	Y-2031-001-0	—	
J - 2	Chamois leather	2-034-697-00	—	
J - 3	Head demagnetizer	Commercially available	—	
J - 4	Dental Mirror Spare Mirror	J-6080-029-A J-6080-030-1	SL-5052	Tape Path
J - 5	Alignment Tape (WR5-1C)	8-967-995-06		Tape Path
J - 6	Dial Tension Gauge	J-6080-827-A		Torque Measurements
J - 7	Tension Measuring Reel	J-6080-831-A		With ϕ 30 tape
J - 8	FWD, RVS Takeup Torque Cassette	J-6080-824-A	GD-2086	
J - 9	Mode Selector	J-6080-825-A		General
J - 10	Tape Path Extension Cord	VJ8-0067		Tape Path
J - 11	FPC Removal Tool	VJ8-0059		

Other instruments required

- Oscilloscope
- Analog tester (20KΩ)



2−6. Checking, Adjusting and Replacing Mechanical Section

2−6−1. S reel base ASSY (See Fig. 2−8.)

(1) Removal procedure

1) Remove the cassette mechanism referring to Section 2−1.
2) Remove Washer ① then gear ASSY ②.
3) Remove screw ③ and release BT band ASSY ④ at this end.
4) Remove S reel base ASSY ⑤.

Note : Remove S reel base ASSY ⑤ on claws ※. (The same applies during reinstallation.)

(2) Reinstallation procedure

1) Apply 1/3 ~ 1/2 drop of Swafluid oil onto the shaft ⑥ shown by the arrow in Fig. A.
2) Mount S reel base ASSY ⑤ on shaft ⑥.
3) Secure BT band ASSY ④ with screw ③.
4) Mount gear ASSY ② on shaft ⑦ and tighten Washer ①.
5) Reinstall the cassette mechanism referring to Section 2−1.

Notes : Check the reel base height referring to para 2−6−18.
Adjust BT lever position referring to para 2−6−20.
Adjust FWD back tension referring to para 2−6−21.

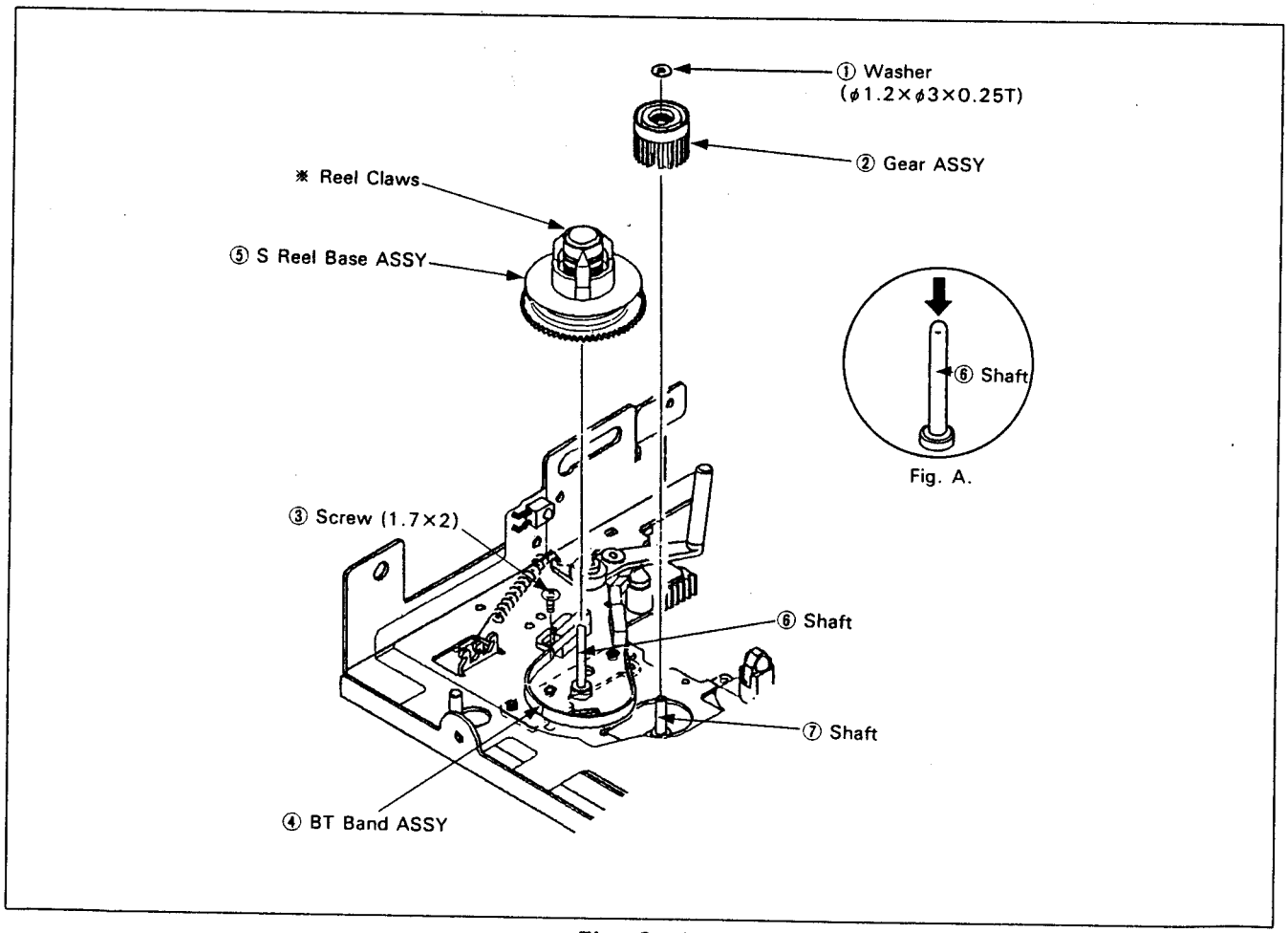


Fig. 2−8.

2−6−2. T reel base ASSY (See Fig. 2−9.)

(1) Removal procedure

1) Remove the cassette mechanism referring to Section 2−1.
2) Remove tension coil spring ①.
3) Remove Washer ② and soft brake ASSY ③.
4) Remove Washer ④ and gear ASSY ⑤.
5) Remove T reel base ASSY ⑥.

Notes : 1. Remove T reel ASSY ⑥ on claws ※. (The same applies during reinstallation.)
2. Rotating slightly soft brake ASSY ③ clockwise (without removing) allows easier removal of T reel ASSY ⑥.

(2) Reinstallation procedure

1) Apply 1/3 ~ 1/2 drop of Swafuild oil onto shaft ⑦ as shown by the arrows in Fig. A.
2) Mount T reel base ASSY ⑤ on the shaft ⑦.
3) Mount gear ASSY ⑤ on the shaft ⑧ and secure with Washer ④.
4) Engage soft brake ASSY ③ with shaft ⑨ and slot ⑩ and secure them with Washer ②.
5) Referring to Fig. B, attach tension coil spring ①.
6) Referring to Section 2−1, reinstall the cassette mechanism.

Note : Check reel base height referring to para 2−6−18.

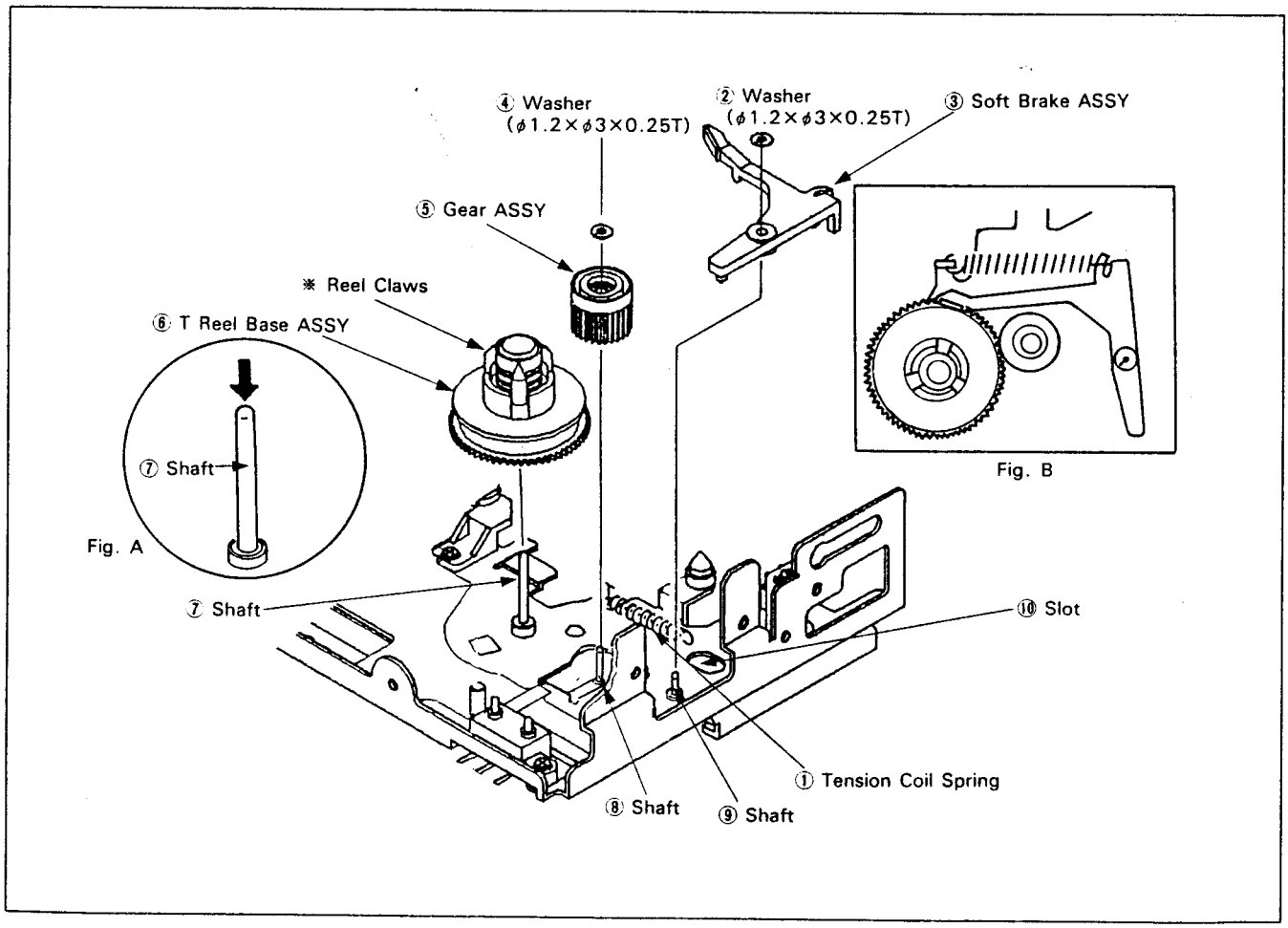


Fig. 2−9.

2−6−3. Pinch roller & lever ASSY (See Fig. 2−10.)

(1) Removal procedure

1) Remove the cassette mechanism referring to Section 2−1.
2) Remove screw ① then sensor bracket ②.
3) Remove Washer ③ then pinch lever ASSY ④ and pull-out guide ASSY ⑤.

Note : Do not touch roller ※.

(2) Reinstallation procedure

1) Mount pull-out guide ASSY ⑤ on the shaft ⑥.
2) Insert pin A of pinch lever ASSY ④ into hole B of the pinch pressure slider ⑦ and slide hole C of pinch lever ASSY ④ onto the pin D of pull-out guide ASSY ⑤. This should insert pinch lever ASSY ④ into shaft ⑧. Secure them with Washer ③.
3) Install sensor bracket ② and tighten screw ①.
4) Reinstall the cassette mechanism, referring to Section 2−1.

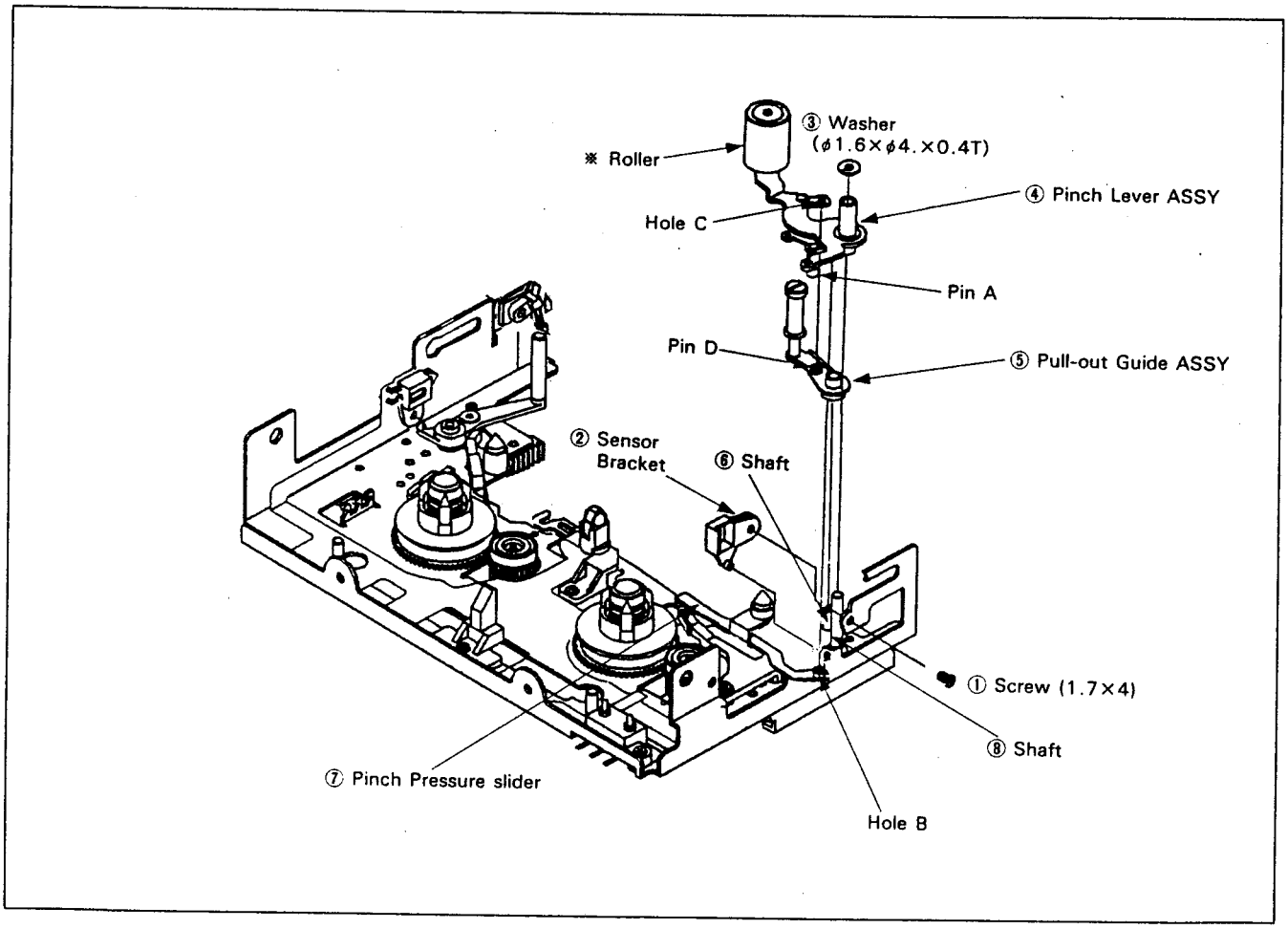


Fig. 2−10.

2−6−4. Back tension lever ASSY

(1) Removal procedure (See Fig. 2−11,12.)

1) Remove the cassette mechanism referring to Section 2−1. (EJECT mode.)
2) Remove screw ⑫ in Fig. 2−12 and release BT band ASSY ⑥ at this end.
3) Remove tension coil spring ② on BT lever ASSY ①.
4) Remove screw ③. Slide slightly the slide bearing ④ in the direction of the arrow and separate the reel chassis from the main chassis. (Flexible PCB can be left attached.)
5) Turn the reel chassis over and remove Washer ⑤ at the back of the chassis then remove BT lever ASSY ①.

Note : Do not handle BT band ASSY ⑥ with hand. Be careful not to bend the band.

(2) Reinstallation procedure (See Fig. 2−12.)

1) Insert pin ⑧ of BT lever ASSY ① into hole ⑦ of BT band ASSY ⑥.
2) Insert pin ⑨ into shaft ⑩ of the reel chassis and pin ⑧ into slot ⑪, respectively.
3) Secure pin ⑨ of BT lever ASSY ① with Washer ⑤ on the rear of the chassis.
4) Secure BT band ASSY ⑥ with screw ⑫.
5) Mount the reel chassis to the main chassis, referring to para 2−6−6.
6) Install tesnsion coil spring ②, referring to Fig. 2−11.
7) Install the cassette mechanism, referring to Section 2−1.

Note : Do not handle BT band ASSY ⑥ with hand. Be careful not to bend the band.

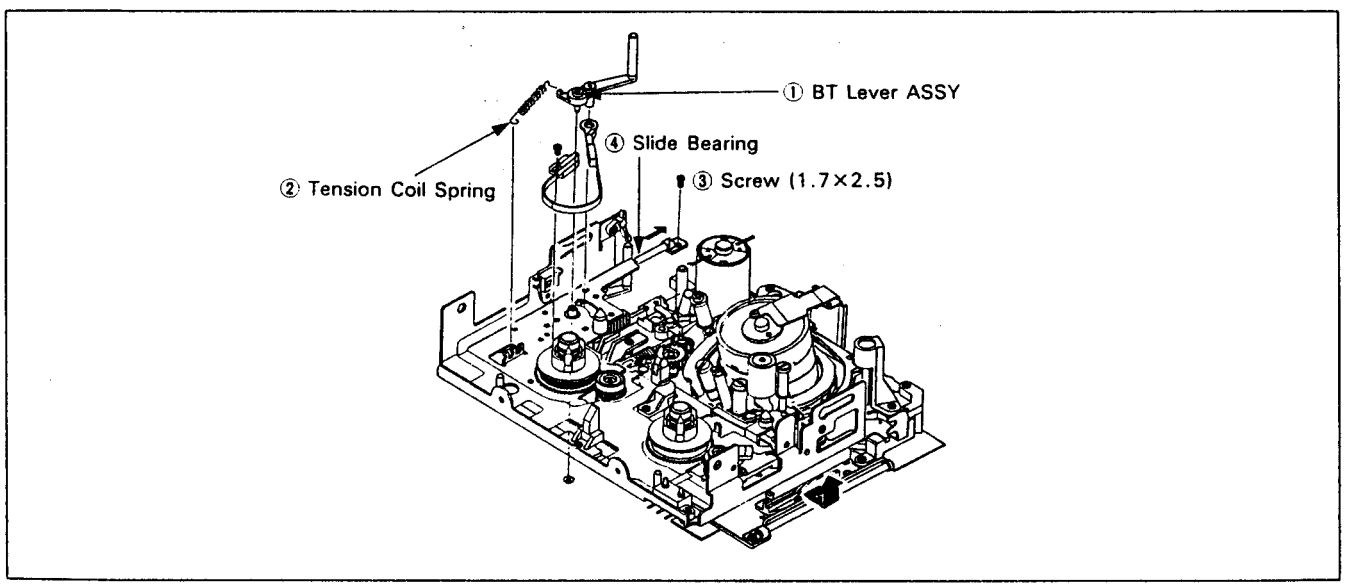


Fig. 2−11.

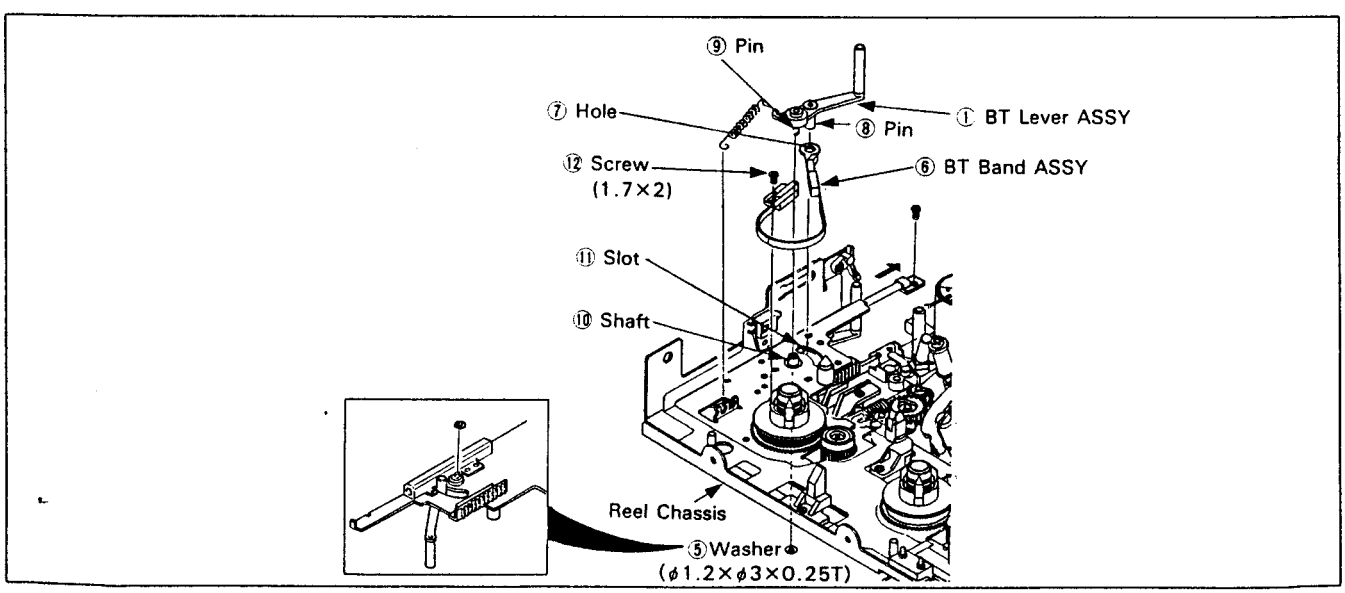


Fig. 2−12.

2−6−5. Idler gear ASSY (See Fig. 2−13.)

(1) Removal procedure

1) Remove the cassette mechanism referring to Section 2−1. (EJECT mode.)
2) Separate the reel chassis from the main chassis, referring to para 2−6−4, step 4).
3) Remove Washer ①. Remove idler gear ASSY ② and gear ③.

(2) Reinstallation procedure

1) Mount shaft ④ on gear ③. Mount boss Ⓐ of idler gear ASSY ② onto shaft ④ and boss Ⓑ into slot ⑤. Secure them with Washer ①.
2) Install the reel chassis on the main chassis, referring to para 2−6−6.
3) Mount the cassette mechanism, referring to Section 2−1.

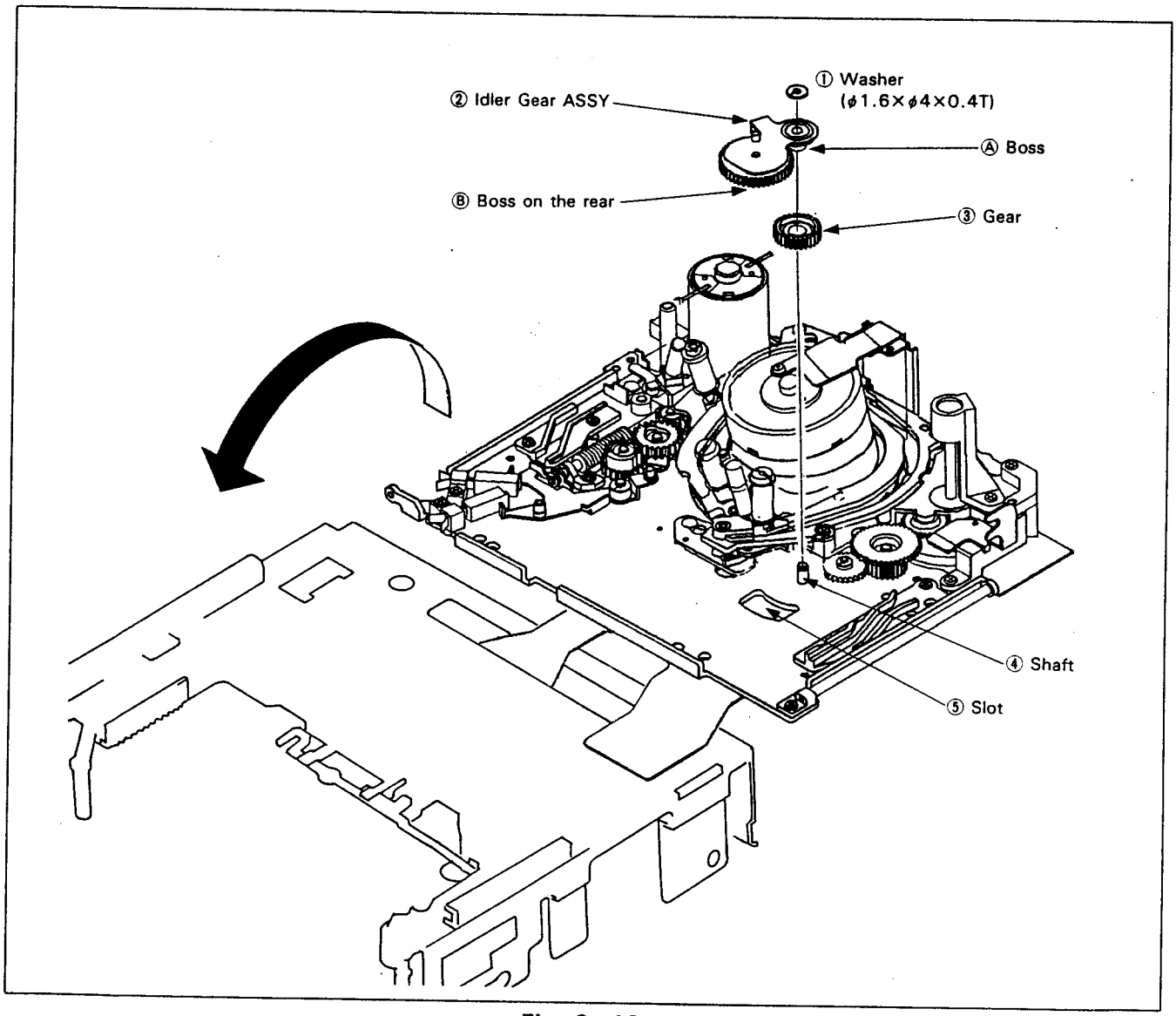


Fig. 2−13.

2−6−6. Phase matching during installation of reel chassis on main chassis (See Figs. 2−14 and 2−15.)

1) Select [STAND BY] mode.
2) Position the mode lever ① so that its "bent" part shown in Fig. 2−14 is parallel with a line from T reel shaft to S reel shaft.
3) Mesh the first tooth of the rack ② of the reel chassis with the same groove of worm gear with which the third tooth of gear A ③ (lower) engages.
4) While meshing reel support bracket ④ with support shaft ⑤, engage cam followers of BT lever and TG9 lever with the cam of main chassis. (See Fig. 2−15.)
5) Insert support shaft ⑥ into reel chassis support bracket ⑦ and secure them with screw ⑧.

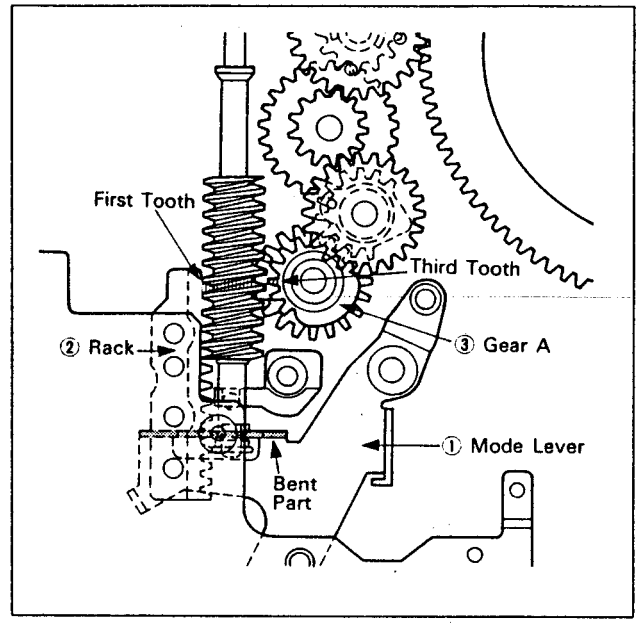


Fig. 2−14.

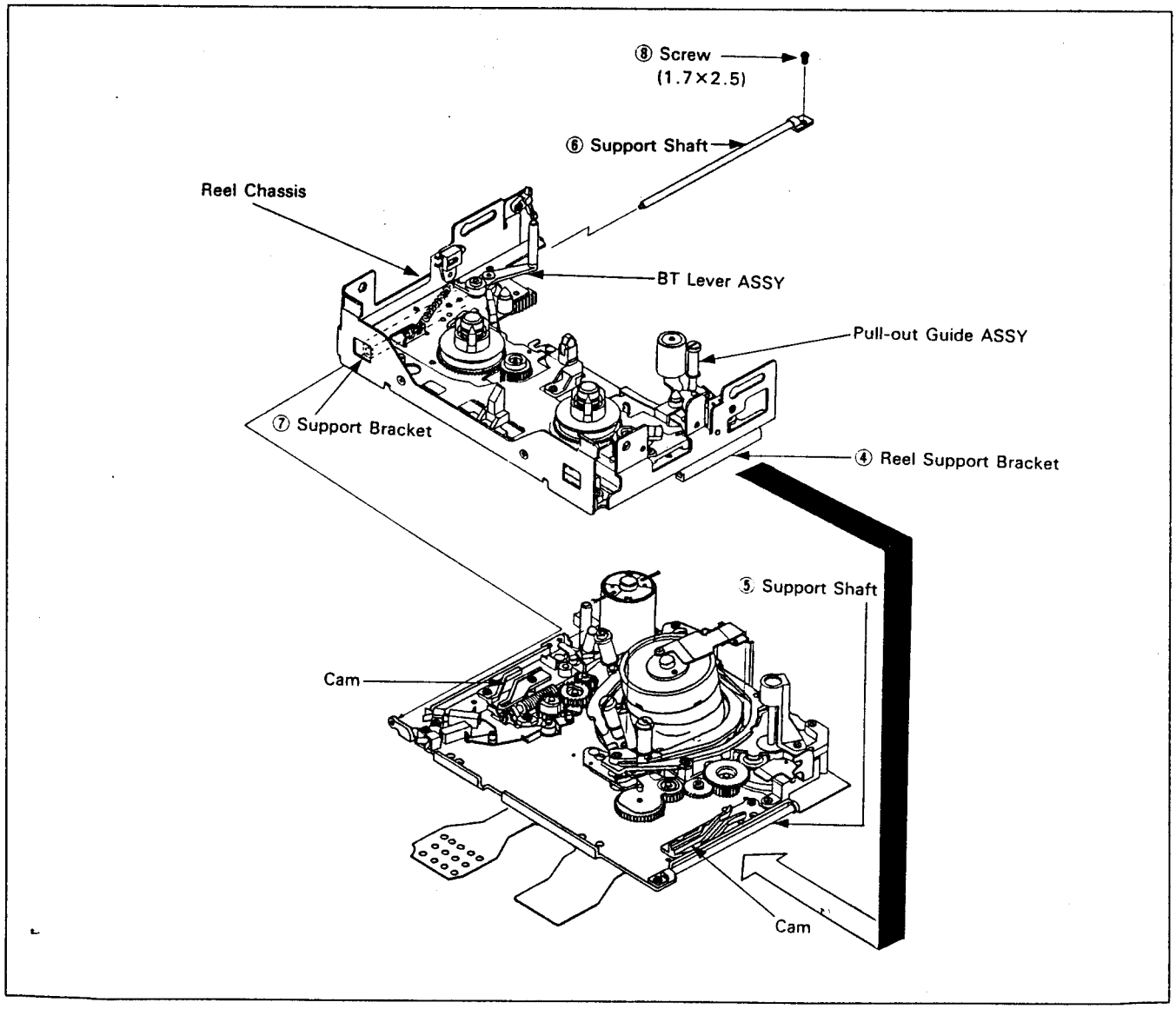


Fig. 2−15.

2−6−7. Pinch pressure slider (See Fig. 2−16.)

(1) Removal procedure

1) Remove the cassette mechanism referring to Section 2−1. (EJECT mode.)
2) Remove pinch lever ASSY ① and pull-out guide ASSY ②, referring to para 2−6−3.
3) Slide pinch pressure slider ③ in the direction of the arrow and remove pin ⑤ from slot ④.

(2) Reinstallation procedure

1) Attach pinch pressure slider ③ as shown in Fig. A.
2) Referring to para 2−6−3, attach pinch lever ASSY ① and pull-out guide ASSY ②.
3) Referring to Section 2−1, reinstall the cassette mechanism.

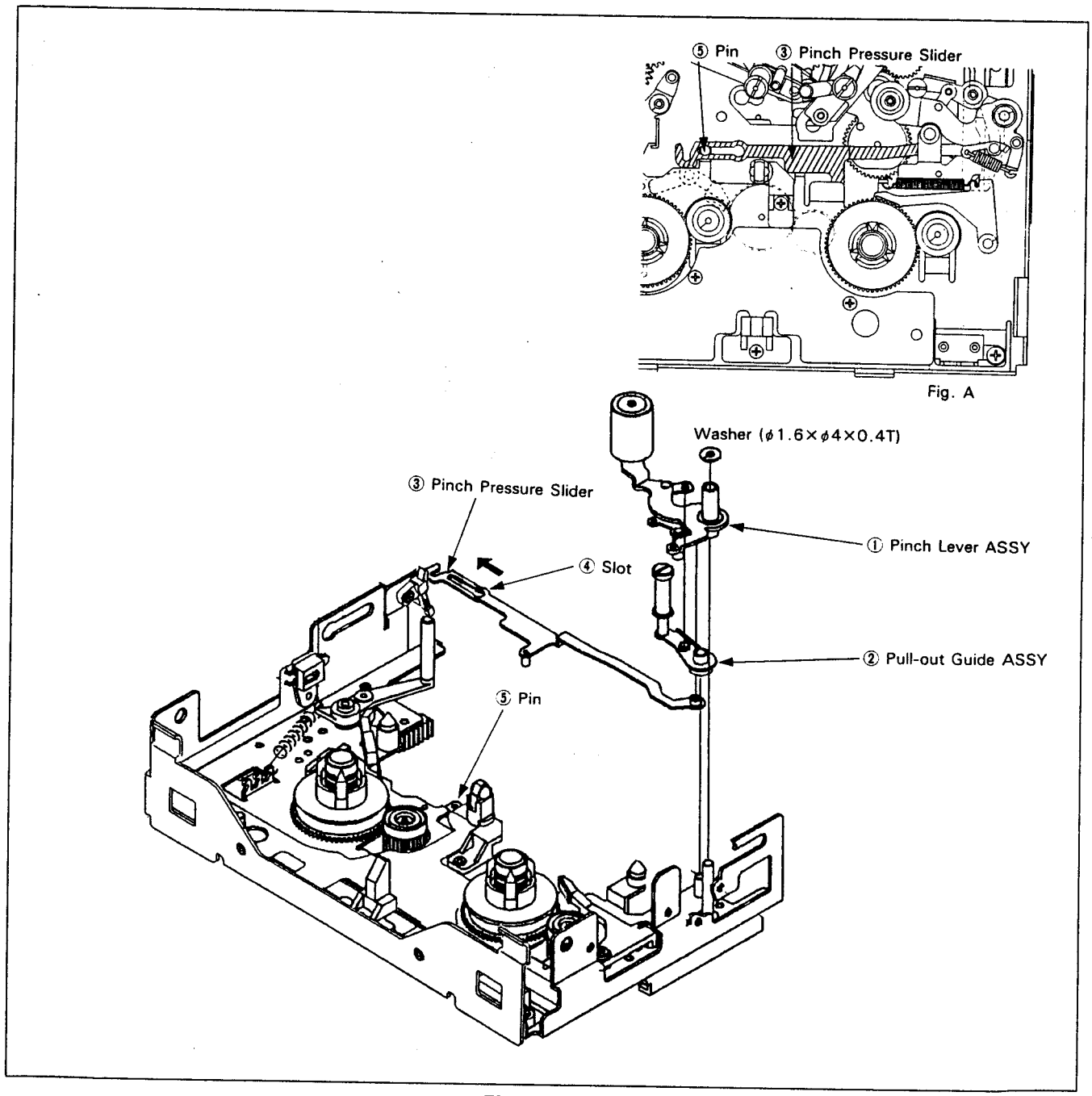


Fig. 2−16.

2−6−8. S shuttle ASSY (See Fig. 2−17.)

(1) Removal procedure

1) Remove the cassette mechanism referring to Section 2−1. (EJECT mode.)
2) Referring to para 2−6−15, remove the cylinder base.
3) Referring to para 2−6−14, remove TG4.
4) Remove screws ②, ③ and ④ that secur rail ① and separate it from the cylinder base.
5) Remove pin ⑥ S shuttle ASSY ⑤, plate ⑦ and link ⑧ from the rail ①.

(2) Reinstallation procedure

1) Insert S shuttle ASSY ⑤ into rail ① and turn the assembly over.
2) Referring to Fig. A, engage plate ⑦ with boss ⑨ of S shuttle ASSY⑤, place link ⑧ on plate ⑦ and secure them with pin ⑥.
3) Place rail ① on the cylinder base and secure it with screws ②, ③ and ④.
4) Referring to para 2−6−14, attach TG4 to shaft ⑩.
5) Verify smoothness of the movement of S shuttle ASSY ⑤. Referring to para 2−6−15, reinstall the cylinder base.
6) Referring to Section 2−1, reinstall the cassette mechanism.

Note : Be carefull not to scratch the cylinder with a screw driver during the following steps.

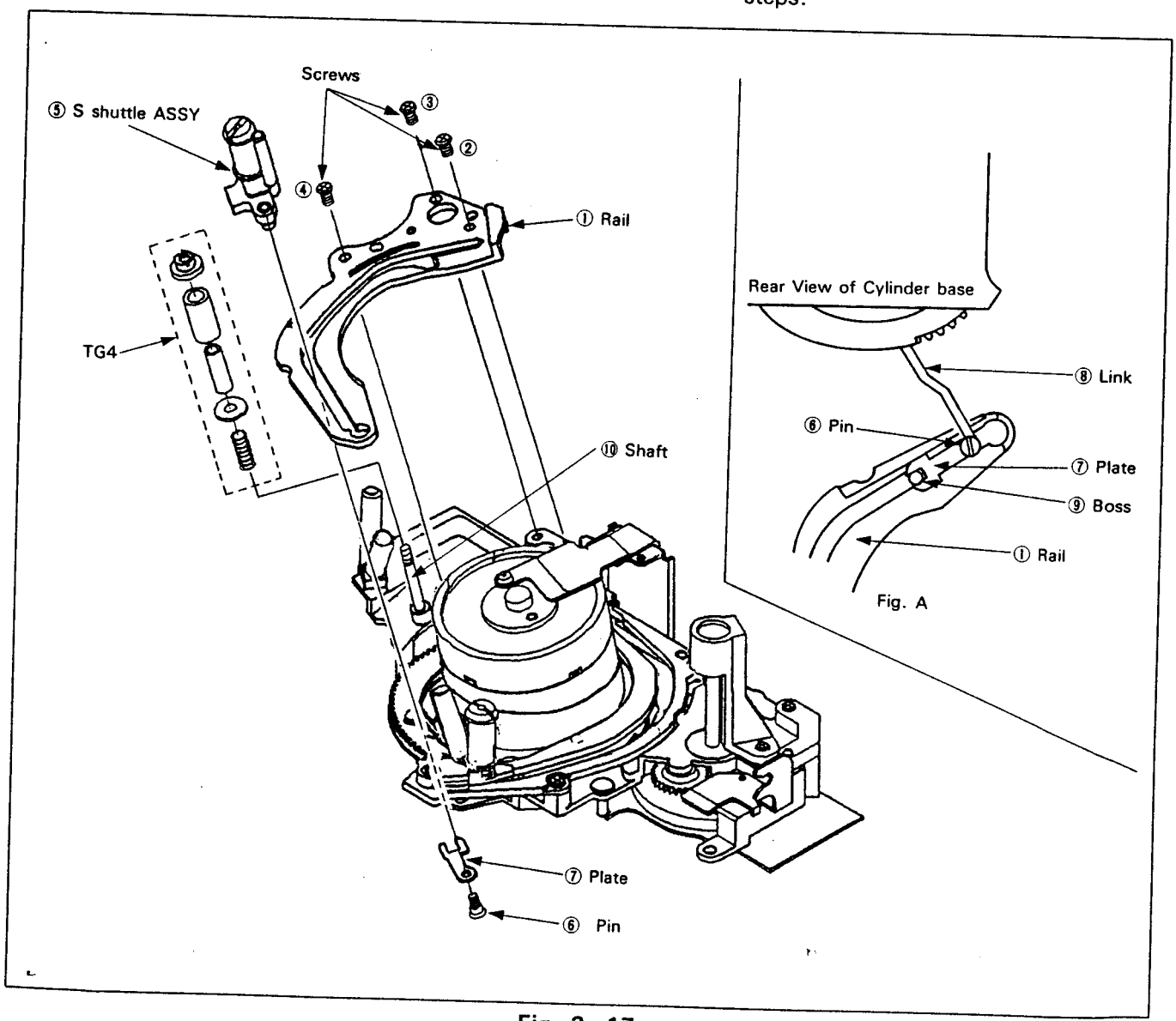


Fig. 2−17.

2−6−9. T shuttle ASSY (See Fig. 2−18.)

(1) Removal procedure

1) Remove the cassette mechanism referring to Section 2−1. (EJECT mode.)
2) Referring to para 2−6−15, remove the cylinder base.
3) Referring to Fig. A, remove screw ② then plate ③, link ④ and T shuttle ASSY ① from the cylinder base.

(2) Reinstallation procedure

1) Insert T shuttle ASSY ① into rail ⑤ and turn the assembly over.
2) Referring to Fig. A, engage plate ③ with boss ⑥ ; place link ④ on T shuttle ASSY ① and tighten screw ②.
3) Verify the smoothness of movement of T shuttle ASSY ①. Referring to para 2−6−15, reinstall the cylinder base.
4) Referring to Section 2−1, reinstall the cassette mechanism.

Note : Be carefull not to scratch the cylinder with a screw driver during the following procedure.

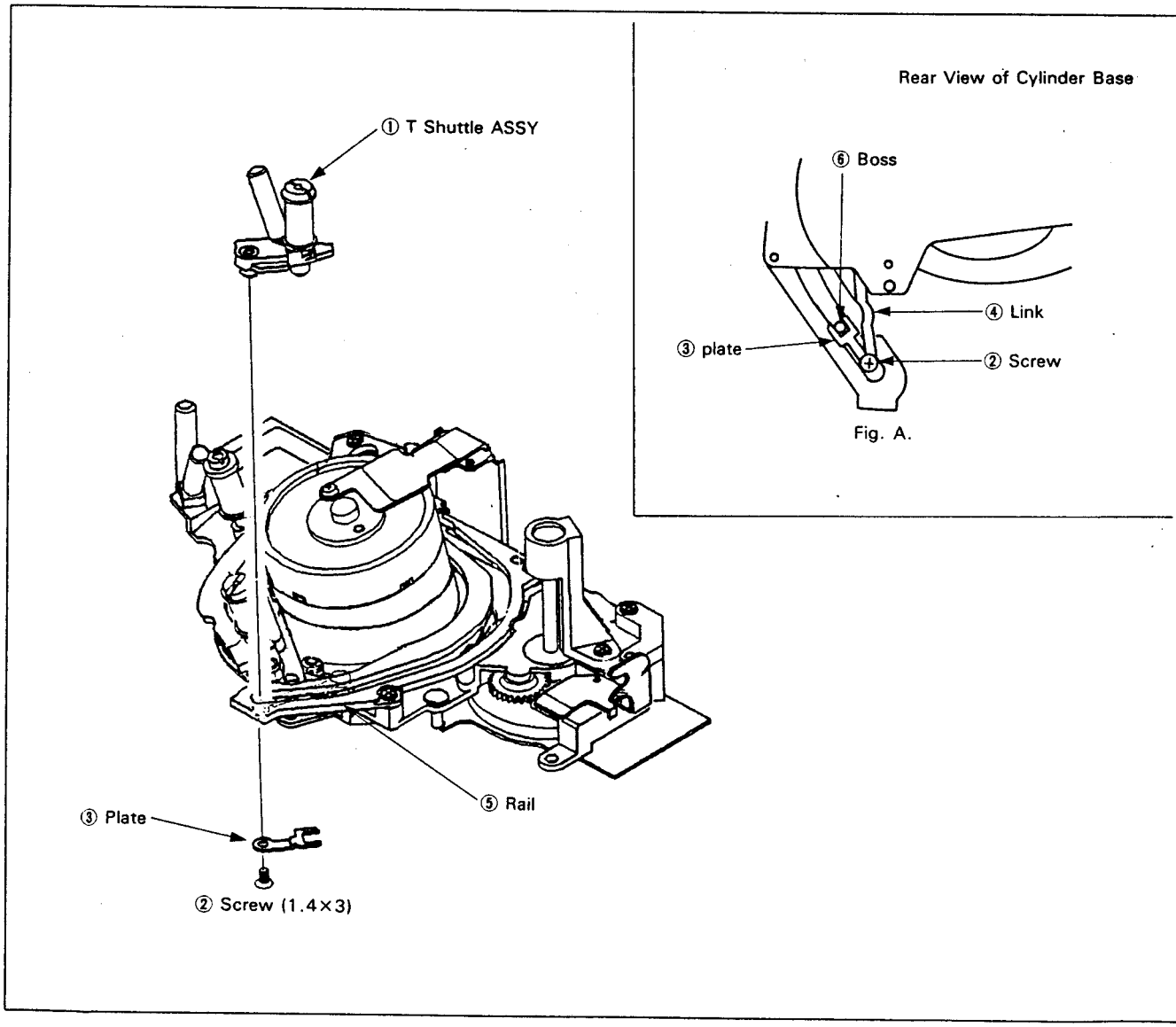


Fig. 2−18.

2−6−10. Loading ring ASSY T and S (See Fig. 2−19.)

(1) Removal procedure

1) Remove the cassette mechanism referring to Section 2−1. (EJECT mode.)
2) Referring to para 2−6−15, remove the cylinder base.
3) Referring to para 2−6−17, remove the cylinder.
4) Referring to para 2−6−8, remove S shuttle ASSY and S rail.
5) Referring to para 2−6−9, remove T shuttle ASSY.
6) Remove sleeve ① and screw ② then T rail ③.
7) Remove E ring ④, roller ⑤, S loading ring ASSY ⑥, roller ⑦, T loading ring ASSY ⑧, E ring ⑨, roller ⑩, E ring ⑪, roller ⑫, and roller ⑬ in this order.

(2) Reinstallation procedure

1) Install roller ⑬, roller ⑫, E ring ⑪, roller ⑩, E ring ⑨, T loading ring ASSY ⑧, roller ⑦, S loading ring ASSY ⑥, roller ⑤, E ring ④ in this order.
2) Place T rail ③ on shaft ⑭ ; tighten screws ② (2 pcs) and fix sleeve ①.
3) Referring to para 2−6−9, replace T shuttle ASSY.
4) Referring to para 2−6−8, replace S shuttle ASSY and S rail.
5) Referring to para 2−6−17, replace the cylinder.
6) Referring to para 2−6−15, replace the cylinder base.
7) Referring to Section 2−1, replace the cassette mechanism.

Note : Before attaching T rail, verify the smoothness of movement of S and T loading ring ASSY's ⑥ and⑧ and rollers ⑤, ⑦, ⑩, ⑫ and ⑬.

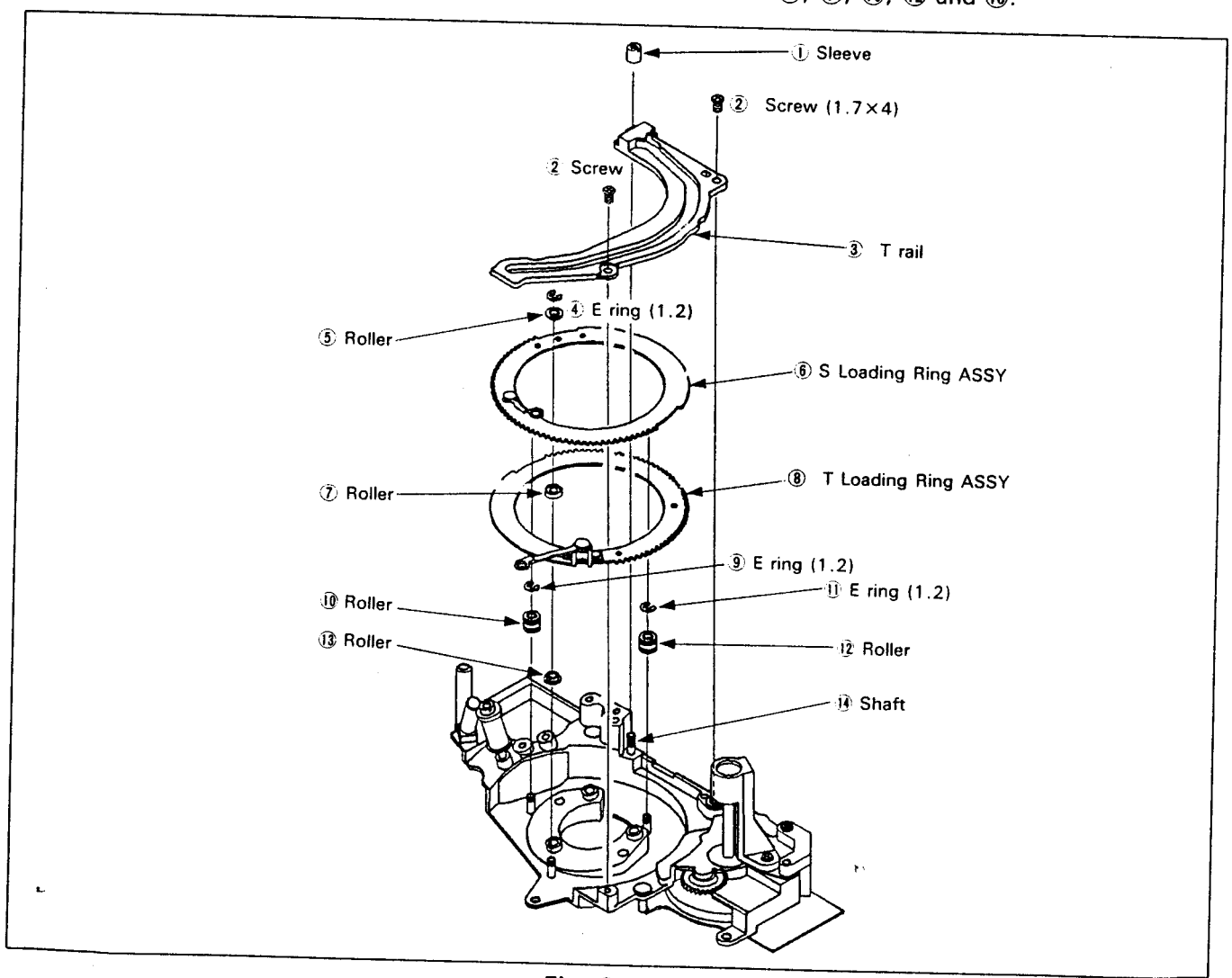


Fig. 2−19.

2−6−11. Flexible PC board (Reel chassis) (See Fig. 2−20)

(1) Removal procedure

1) Remove the cassette mechanism referring to Section 2−1. (EJECT mode.)
2) Remove the blind covering flexible PC board ①.
3) Unsolder ② on flexible PC board ① (Following the procedure described in the next page : Soldering Considerations. Use the JIG VJ8−0059.)
   Also unsolder cassette SW ③ held by the reel chassis.
4) Referring to para 2−6−4, remove the reel chassis from the main chassis.
   Remove the flexible PC board ⑥ that is soldered at ②.
5) Remove screwed tape end sensor brackets ④ and ⑤.
6) Remove screws securing push SW ⑦ and tape end sensor bracket ASSY ⑧ ; remove flexible PC board ①.

(2) Reinstallation procedure (After replacing parts)

1) Curl flexible PC board ⑨ as shown in Fig. A and solder the parts the PC board.
2) Peel off the back tape of the PC board and attach it across reel shafts ⑩ and ⑪.
3) Screw tape end sensor brackets ④ and ⑤, and tape end sensor bracket ASSY ⑧.
4) Insert dimples and dowels into the back of SW ⑦ and screw it.
5) Solder the cassette SW as shown in Fig. B.
6) Place flexible PC board ⑥ on flexible PC board ①. Using the JIG VJ8−0059 (see Soldering Considerations on the next page), apply solder generously onto the PC board.
7) Referring to para 2−6−6, attach the reel chassis to the main chassis.
8) Referring to Section 2−1, install the cassette mechanism.

Note : Perform soldering in 5 seconds at 260°C.

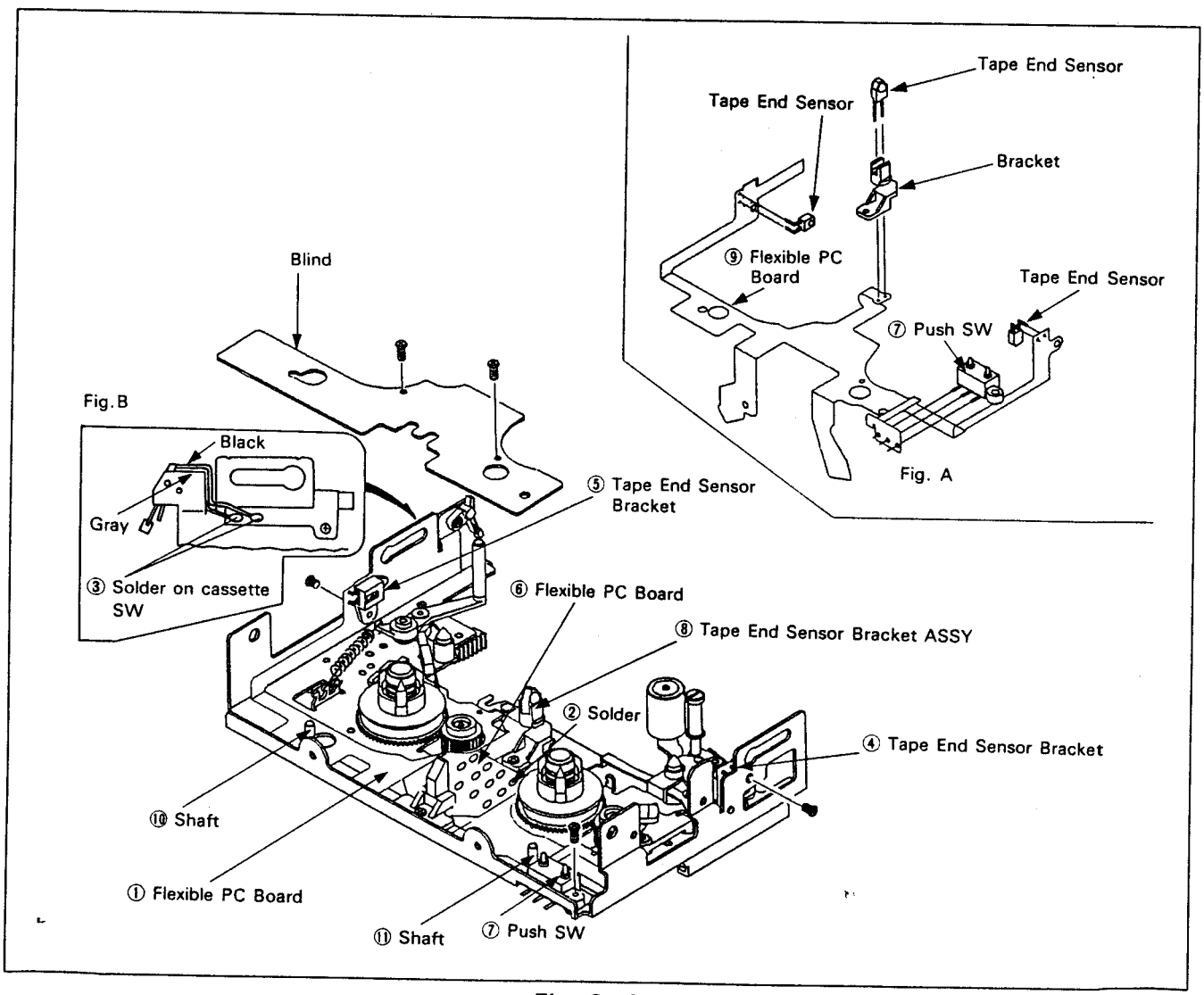


Fig. 2−20.

〔※ **Soldering Considerations**
(See Figs. 2−21. and 2−22.)〕

FPC's on the mechanism are soldered using FPC removal jig ① shown in Fig. 2−21.

1) Unsoldering

- Attach the jig onto the solder side of FPC. Make sure there is no clearance between the jig bottom and the FPC top.
- Remove all solders using unsoldering wire.

※Do not overheat the solder. Avoid touching surrounding parts with the soldering iron.

2) Soldering

- Attach the jig onto the solder side of FPC. Make sure there is no clearance between the jig bottom and the FPC top.
- While heating FPC with the soldering iron, apply solder and join the 2 FPC's at 13 points.

※Avoid applying excessive solder.

- After soldering, remove the jig ; verify freedom of rotation of the gear (with reel base).

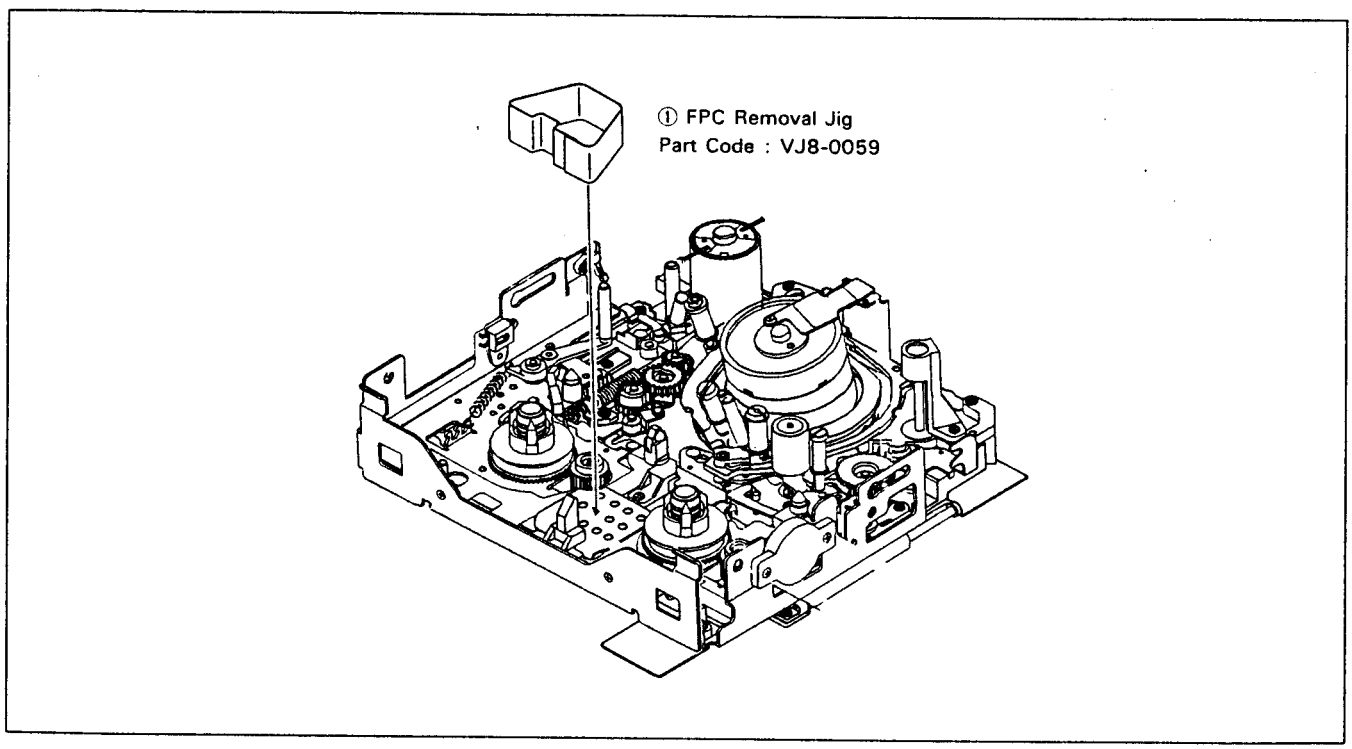


Fig. 2−21.

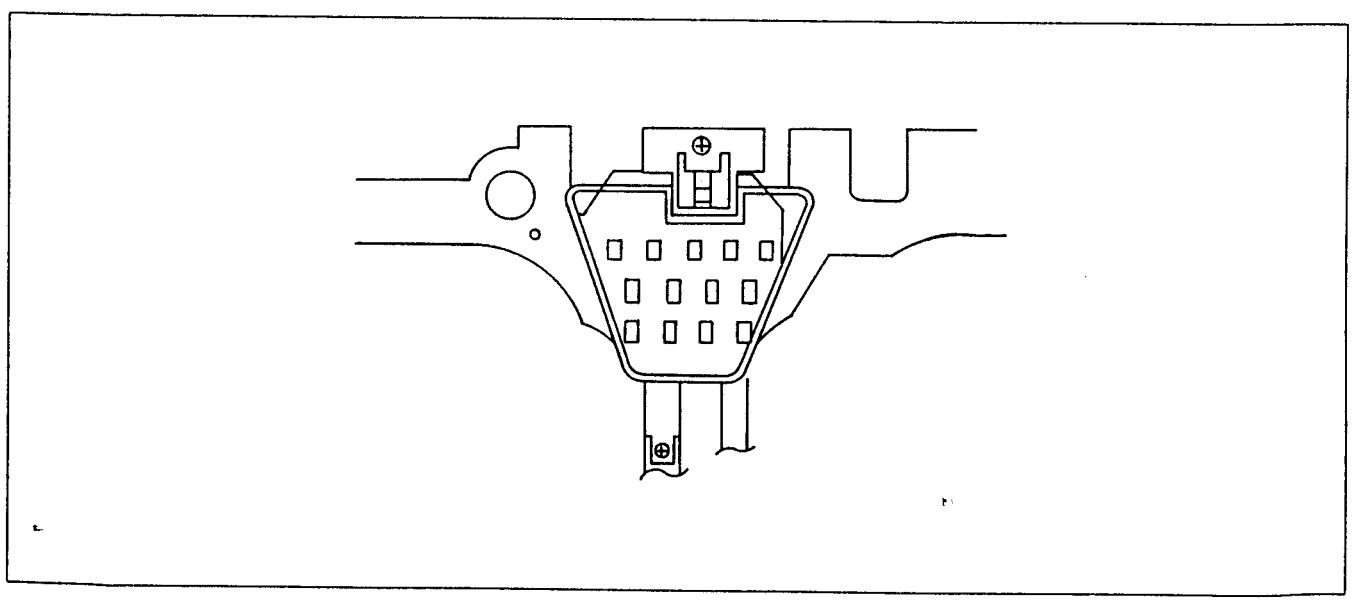


Fig. 2−22.

2−6−12. Flexible PC board (Main chassis) (See Figs. 2−23 and 2−24.)

(1) Removal procedure

1) Remove the cassette mechanism referring the to Section 2−1. (EJECT mode.)
2) Remove the solder from flexible PC board ① on the flexible PC board of the reel chassis ; separate the two flexible PC boards.
3) Unsolder lead wires of each component from the rear of the main chassis.
4) Referring to para 2−6−15, remove the cylinder base.
5) Unsolder PLAY SW ② ; remove screw ③ ; separate PLAY SW ② from flexible PC board ① and remove the SW.

(2) Reinstallation procedure

1) Place flexible PC board ① on the main chassis and align with hole ④, slot ⑤ and ⑥.
2) Insert PLAY SW ② into flexible PC board ① on the main chassis ; engage dimples and dowels and secure with screw ③ then solder the joints.
3) Referring to para 2−6−15, attach cylinder base to the main chassis.
4) Referring to Fig. 2−24, solder lead wires and dress them.
5) Attach flexible PC board ① to the reel chassis as shown in Fig. 2−20. (See para 2−6−11.)
6) Referring to Section 2−1, install the cassette mechanism.

Note : While removing or replacing PLAY SW ② from/to flexible PC board ①, be careful not to touch the wormgear with the soldering iron .

- Soldering should be done within 5 seconds at 260°C.
- Once mounting PLAY SW ② is completed, do not touch it because it may be easily distorted.

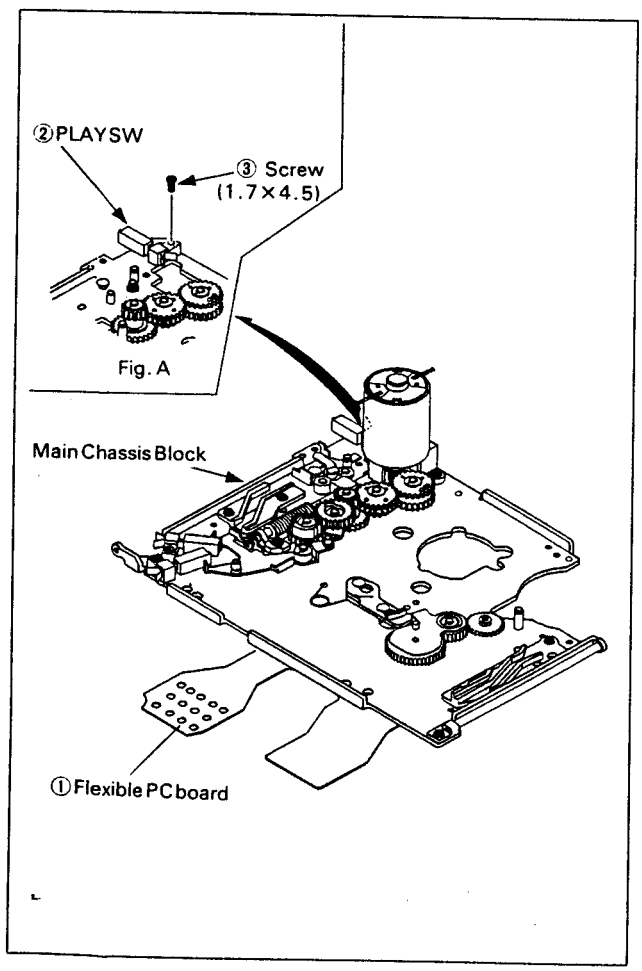


Fig. 2−23.

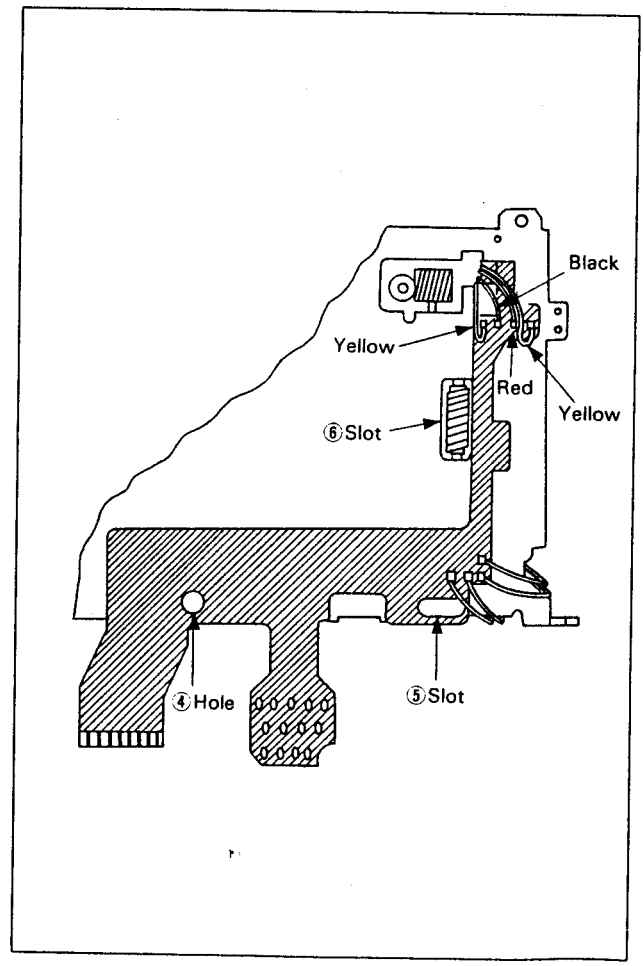


Fig. 2−24.

2−6−13. Loading motor ASSY (See Fig. 2−25.)

(1) Removal procedure

1) Remove the cassette mechanism referring to Section 2−1. (EJECT mode.)
2) Unsolder the lead wires of loading motor from the rear of the main chassis.
3) Remove screws ③ (2 pcs at the rear of the main chassis) holding loading motor ASSY ① and bracket ②.

(2) Reinstallation procedure

1) Align 2 threaded holes at the bottom of loading motor ASSY ① with holes ④ in bracket ② ; alternately turn screws ③. (Verify that both threads and grooves on worm screw ⑤ and worm gear of the main chassis are properly engaged.
2) Solder lead wires of loading motor ASSY ①.
3) Referring to Section 2−1, install the cassette mechanism.

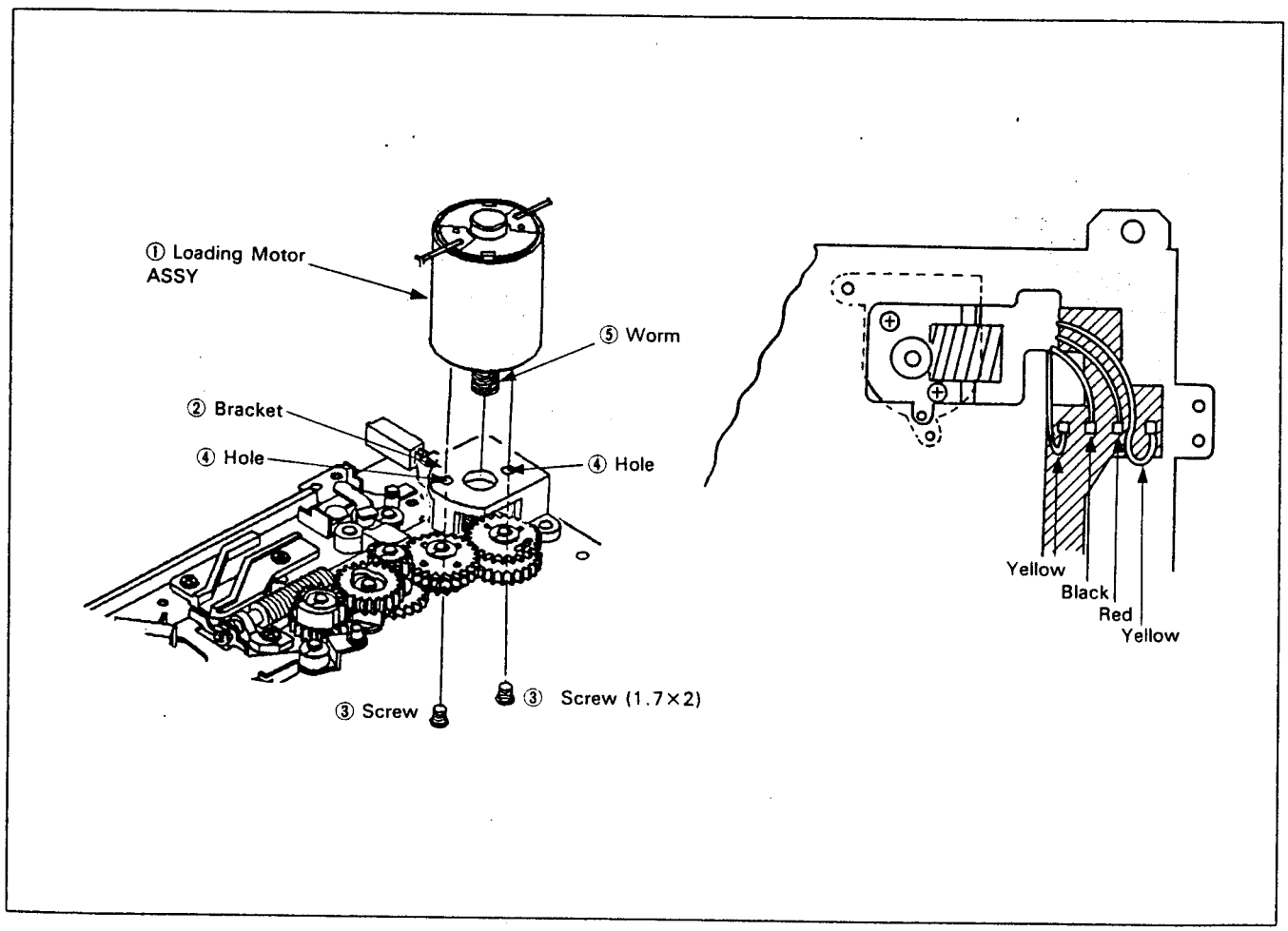


Fig. 2−25.

2-6-14. TG4 (See Fig. 2-26.) (Replacing only TG4 can be done without removing cassette mechanism.)

(1) Removal procedure

1) Remove upper flange ①.
2) Remove roller ②, sleeve ③, lower flange ④ and compression coil spring ⑤.

Notes : Upon removal of upper flange ①, compression coil spring ⑤ pops off the components above it ; arrest by hand. Do not handle bronze roller ② directly with hand.

(2) Reinstallation procedure

1) Insert compression spring coil ⑤, lower flange ④, sleeve ③ and upper flange ② into shaft ⑥.
2) Mount upper flange ①.
3) Preset the height as described below.

(3) Presetting height

1) See Fig. A. Screw upper flange ① until bottom of its slot is flush with top of shaft ⑥ ; unscrew the flange through one turn (360°).

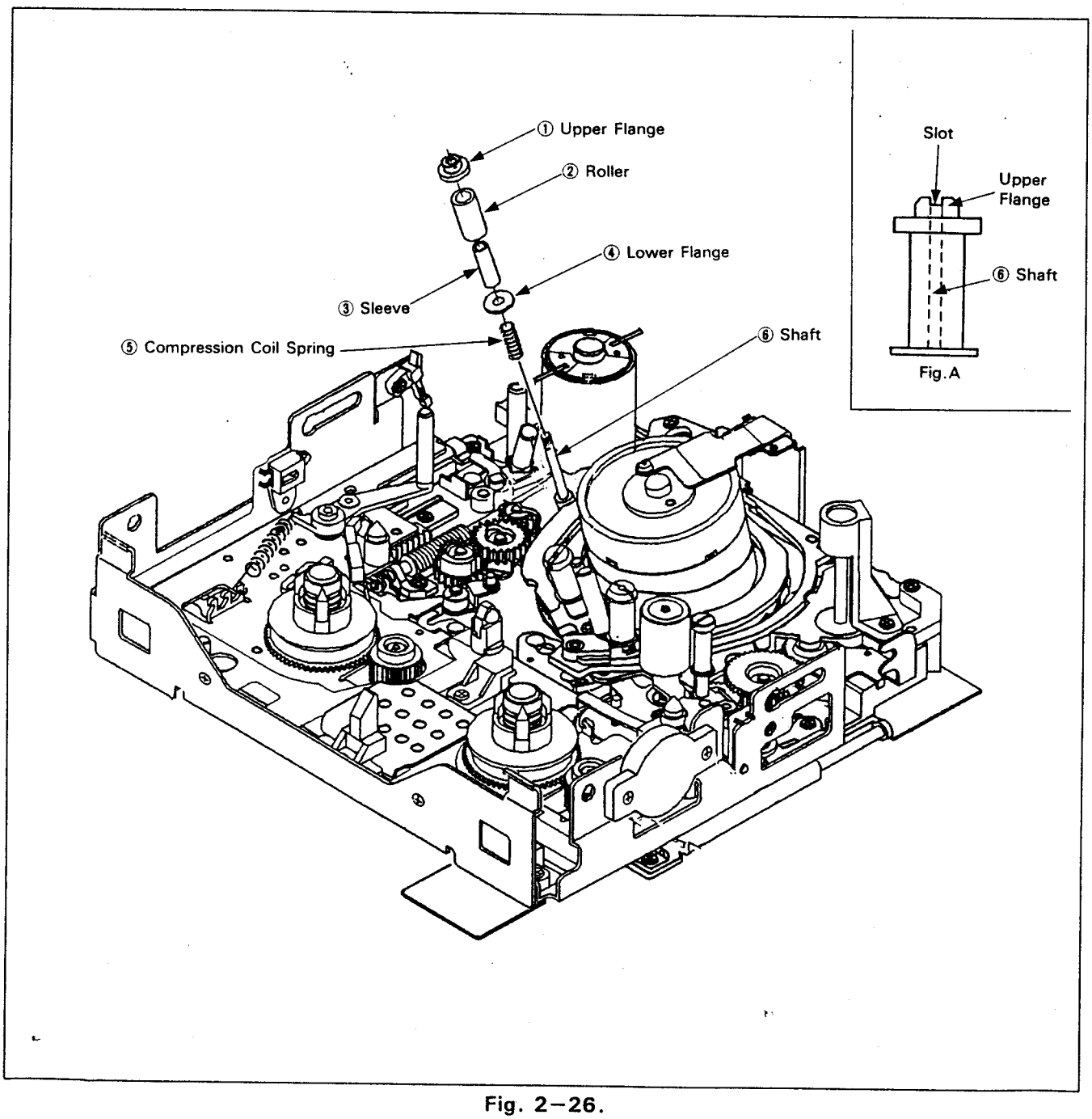


Fig. 2-26.

2−6−15. Cylinder Base (See Fig. 2−27.)

(1) Removal procedure

1) Remove the cassette mechanism referring to Section 2−1. (EJECT mode.)
2) Remove washer ① then gear ② from the main chassis.
3) Remove screws ③ and ④ (2 pcs) and separate cylinder base from the main chassis.

(2) Reinstallation procedure

1) Referring to para 2−6−16, secure cylinder base with screws ③ and ④.
2) Slide gear ② onto shaft ⑥ ; secure it with washer ①. (Mesh gears.)
3) Referring to Section 2−1, install the cassette mechanism.

Note : When mounting cylinder base, be sure to hook one end of spring ⑦ onto the cylinder base plate. (See Fig. A.)

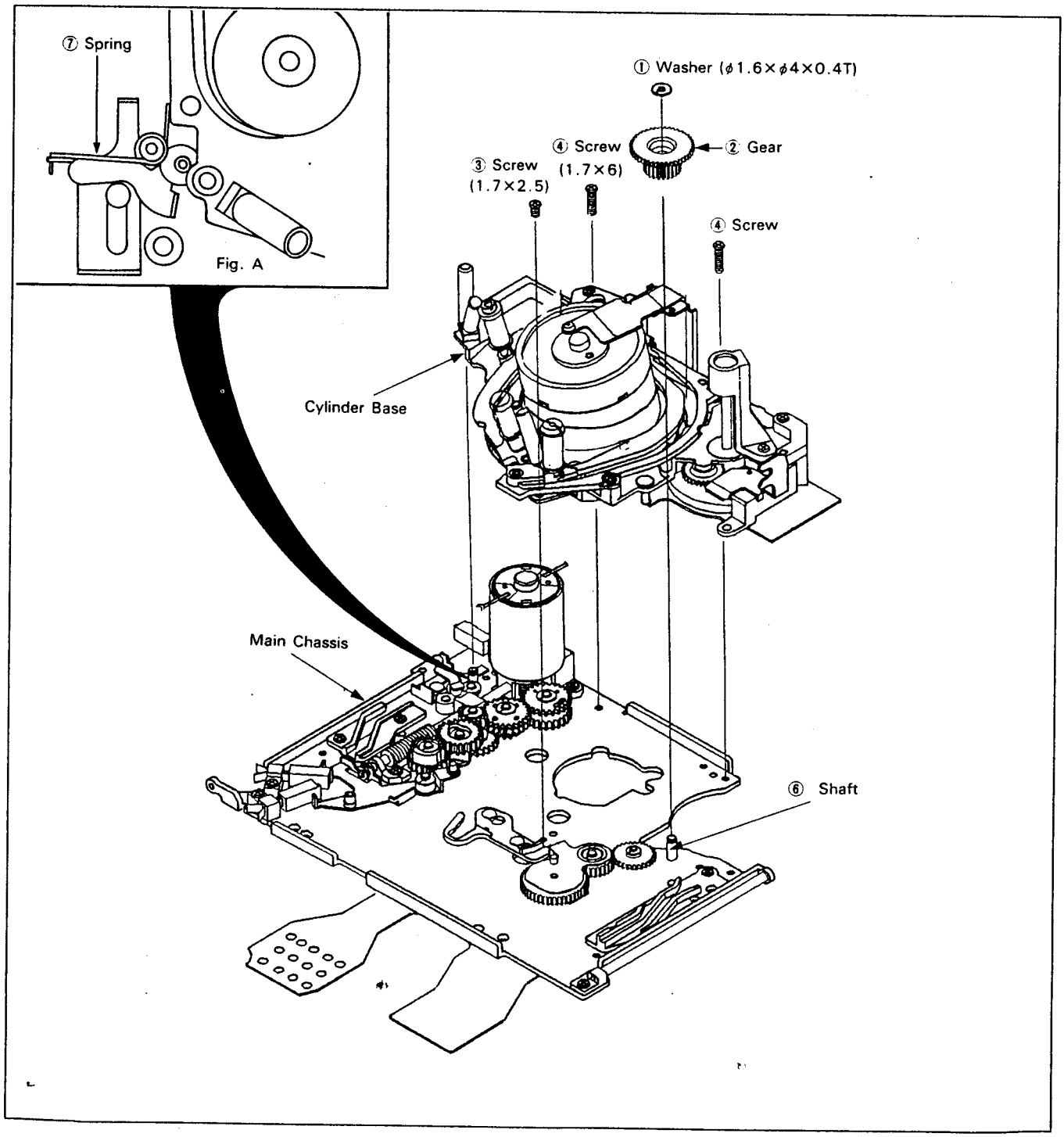


Fig. 2−27.

2−6−16. In-phasing during installation of cylinder base to the main chassis.

1) Referring to Fig. 2−28, set S and T shuttles into unloading position.
2) Referring to Fig. 2−29, mesh the 3rd tooth of upper loading ring with the marked tooth of upper loading ring drive gear ; mesh the 4th tooth of lower loading ring with the marked tooth of lower loading ring drive gear.
3) Match dimples and dowels of cylinder base ASSY with the main chassis and secure them with screws ① and ②.
4) Tighten lightly screw ③ into the hole of S rail end after completion of the reel chassis ASSY in-phase adjustment.

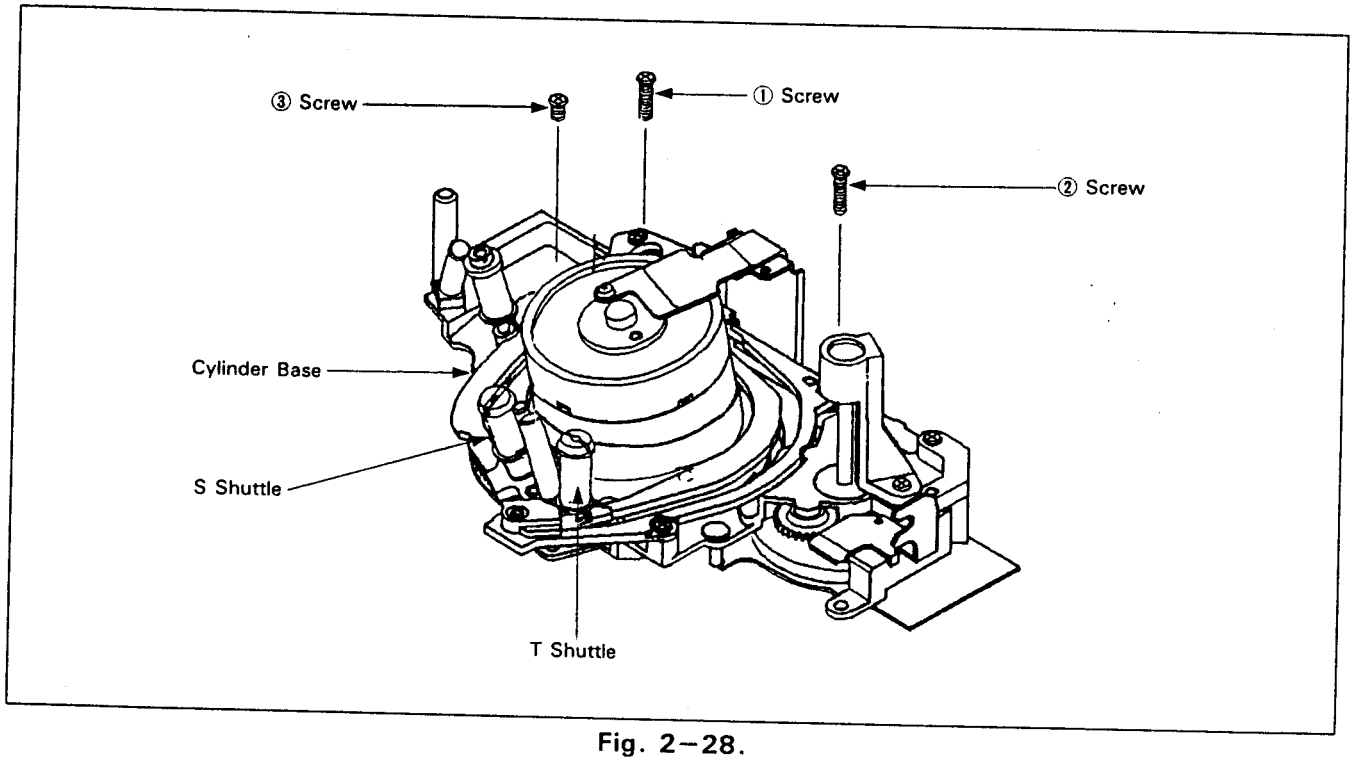


Fig. 2−28.

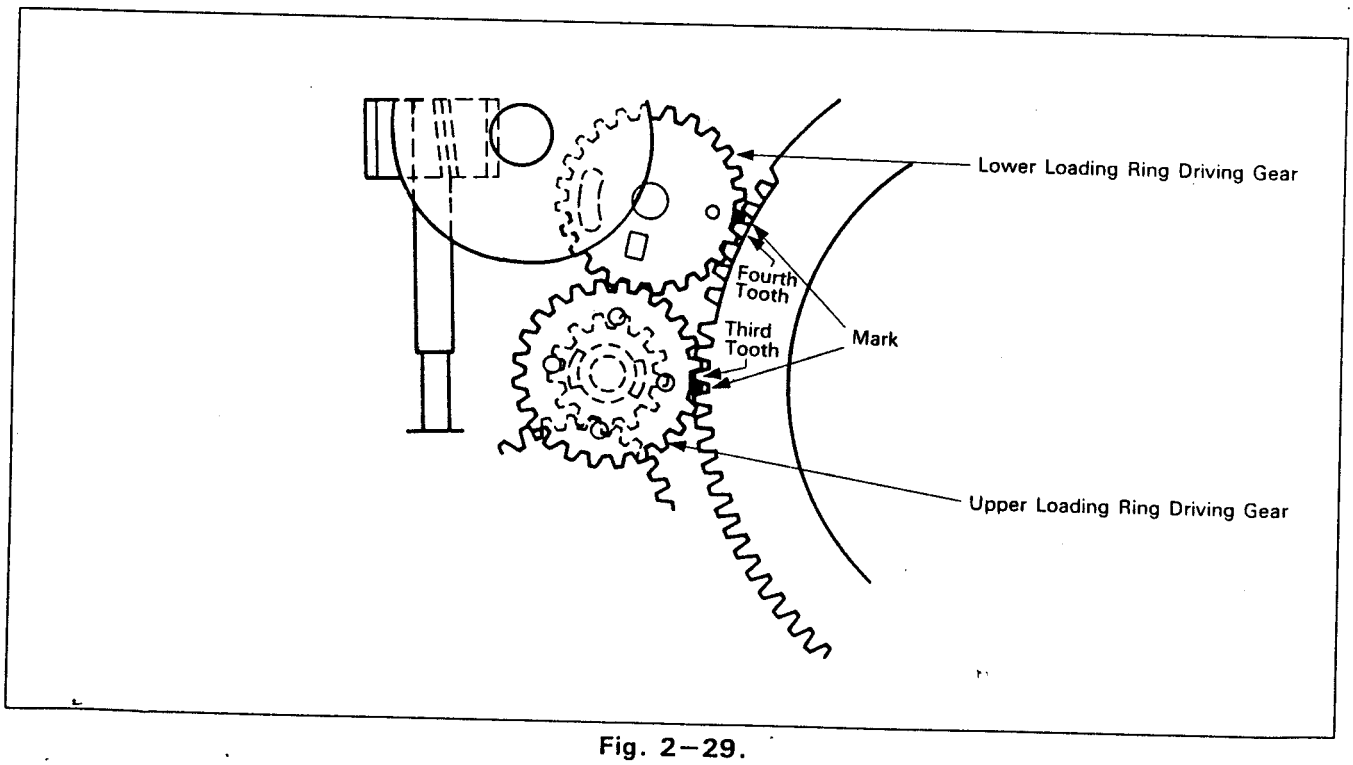


Fig. 2−29.

2−6−17. Cylinder (See Fig. 2−30.)

(1) Removal procedure

1) Remove the cassette mechanism referring to Section 2−1. (EJECT mode.)
2) Remove screws ① (3 pcs) from the rear of the main chassis ; remove flexible PC board ② from the main chassis and take cylinder ③ out.

(2) Reinstallation procedure

1) Align 2 holes at the rear of the cylinder with shafts ④ of the cylinder base.
2) Tighten screws ① (3 pcs).
3) Attach the flexible PC board to the main chassis.
4) Referring to Section 2−1, install the cassette mechanism.

Notes : Tighten screws ① (3 pcs) with a 0.75 kg-cm torque.
Do not touch cylinder directly with hand.
Do not touch the cylinder heads.

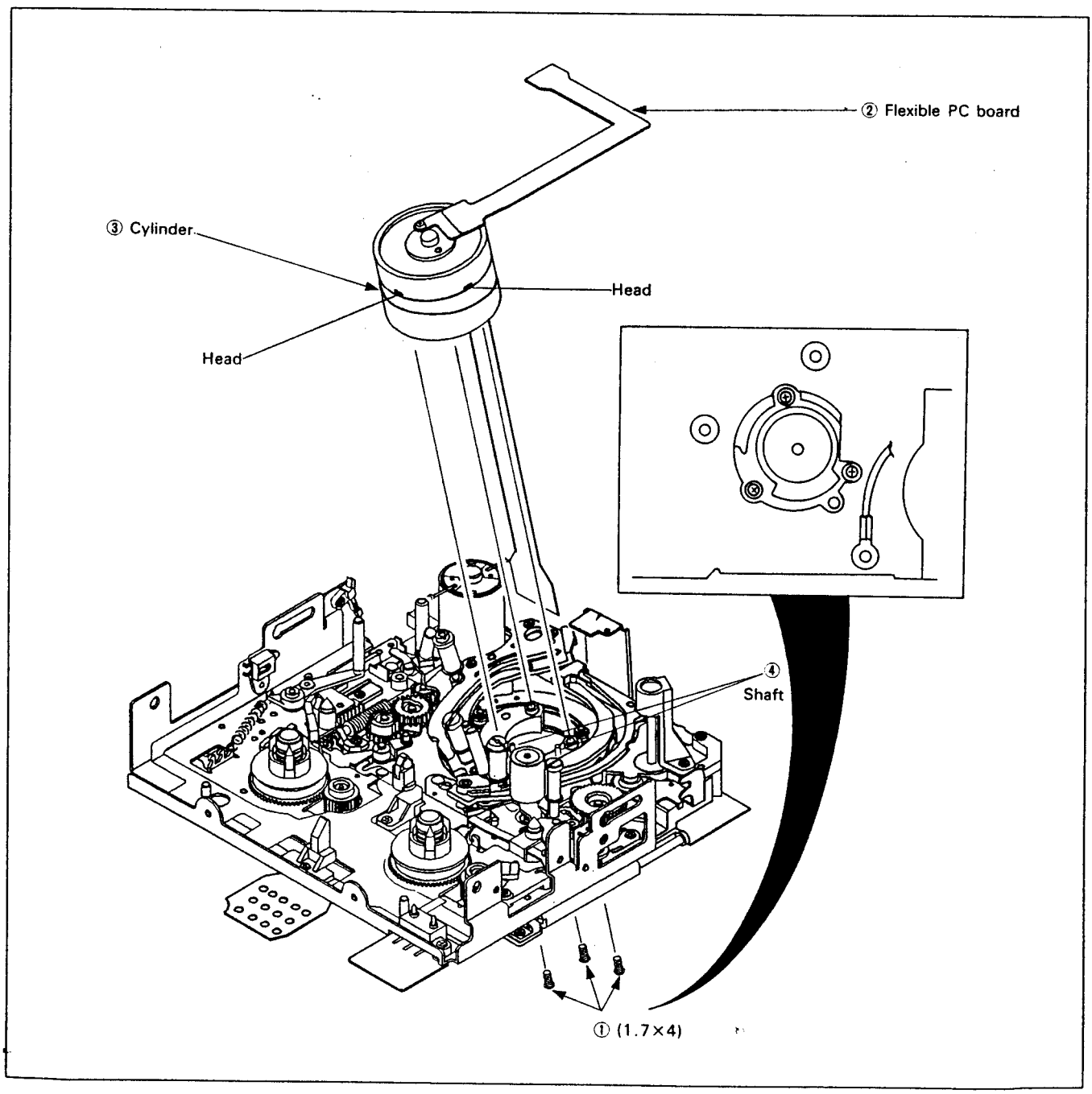


Fig. 2−30.

2−6−18. Checking reel height (See Fig. 2−31.)

Checking procedure

1) Referring to Section 2−1, remove the cassette mechanism.
   Using vernier calipers or the like, verify that there is a 5.1±0.15mm clearance between the top of the reel chassis and the rest plate of S and T reel bases.

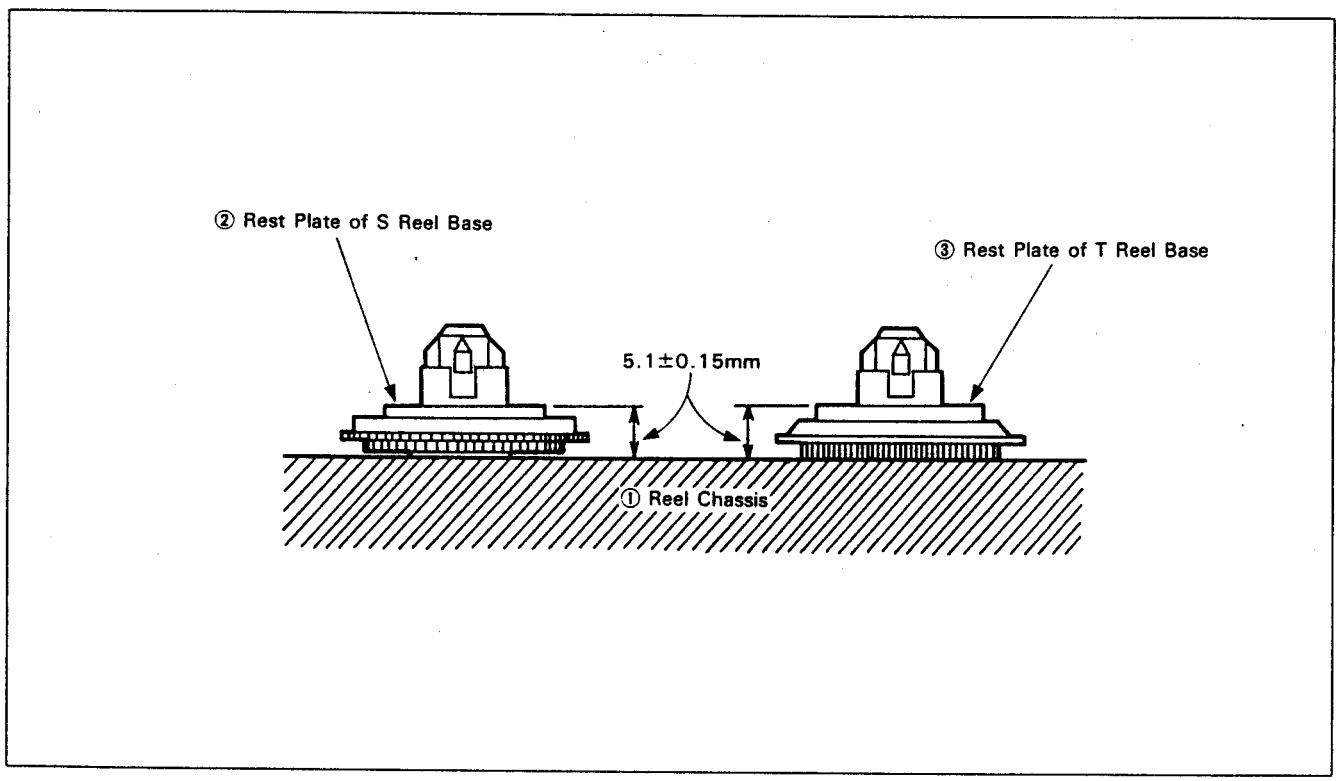


Fig. 2−31.

2−6−19. Checking FWD and RVS torque

1) Set the FWD and RVS takeup torque cassette (J-6080-824-A).
2) In with FWD mode verify the presence of a 8-12 g-cm torque for T reel side.
3) In recreview mode, verify the presence of a 20-28 g-cm torque for S reel side.
4) If the above values are not obtainable, interchange the reel bases.

2−6−20. Adjusting BT lever position (See Fig. 2−32.)

(1) Removal procedure
  1) Referring to Section 2−1, remove the cassette mechanism.

(2) Adjusting procedure
  1) Referring to Section 2−3, set the mechanical deck ready for operation.
  2) Set in a unit loading completion state without actually loading a cassette.
  3) Loosen screw ① holding BT band ASSY ; position BT lever ② as shown in the enlarged figure.
  4) Retighten screw ①.

(3) Verification
  1) Running the leading tape (P6-120), verify that there is no contact between the tape and the cassette half (See Fig. 2−33).

(4) Reinstallation procedure
  1) Referring to Section 2−1, install the cassette mechanism.

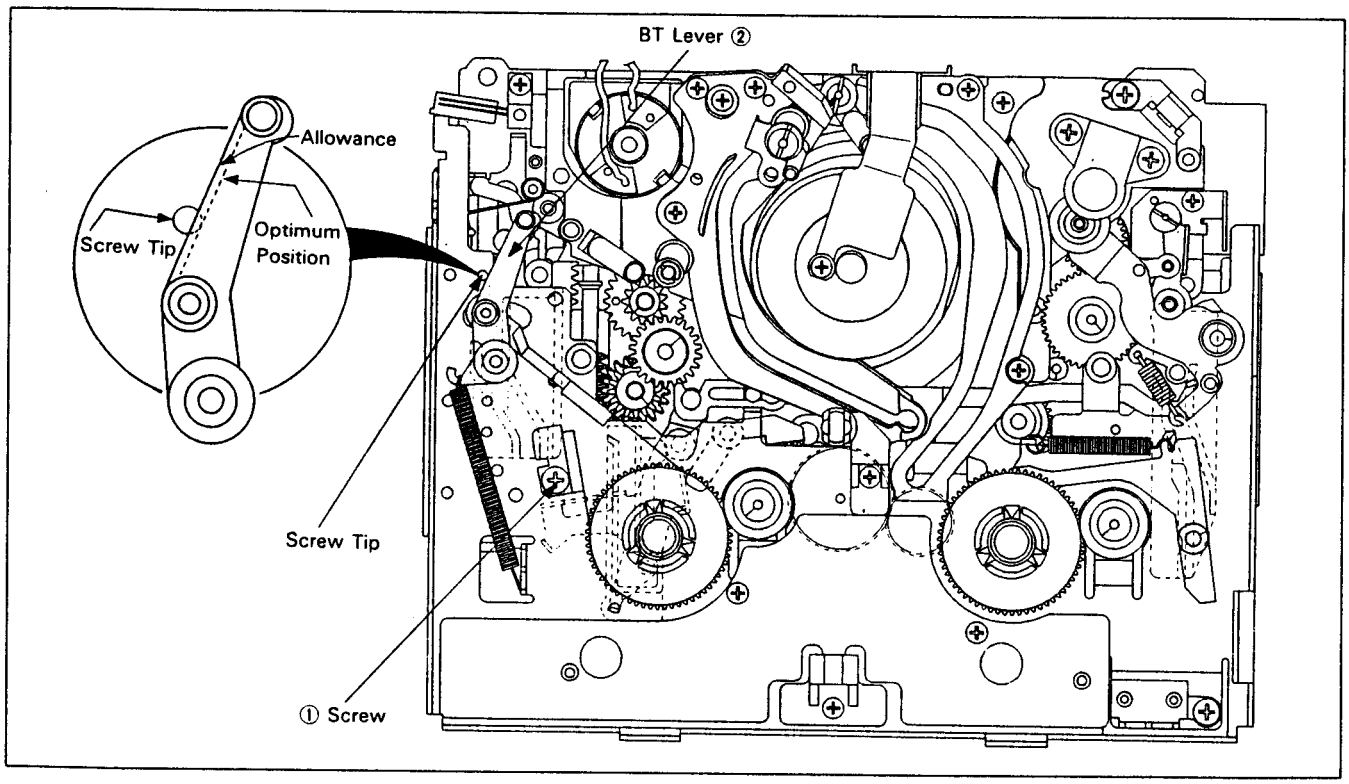


Fig. 2−32.

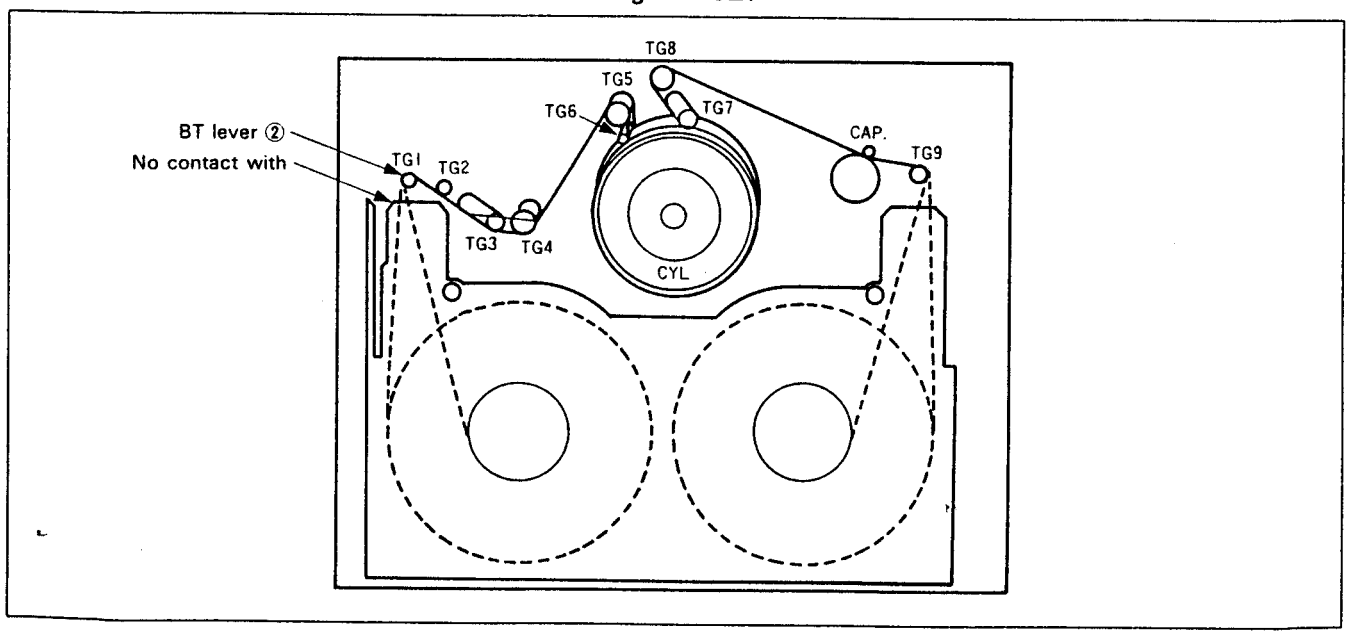


Fig. 2−33.

2−6−21. FWD back tension adjustment

(1) Removal procedure
  1) Referring to Section 2−1, remove the cassette mechanism.

(2) Adjusting procedure
  1) SET in enter [REC] mode.
  2) Set a tension measuring reel ①.
  3) Using a dial tension gauge ②, pull the tape from exit side at 20mm/sec and read the dial.
  4) If the reading is outside 5~10g range, reposition the hook (See Fig. 2−35).

(3) Referring to Section 2−1, install the cassette mechanism.

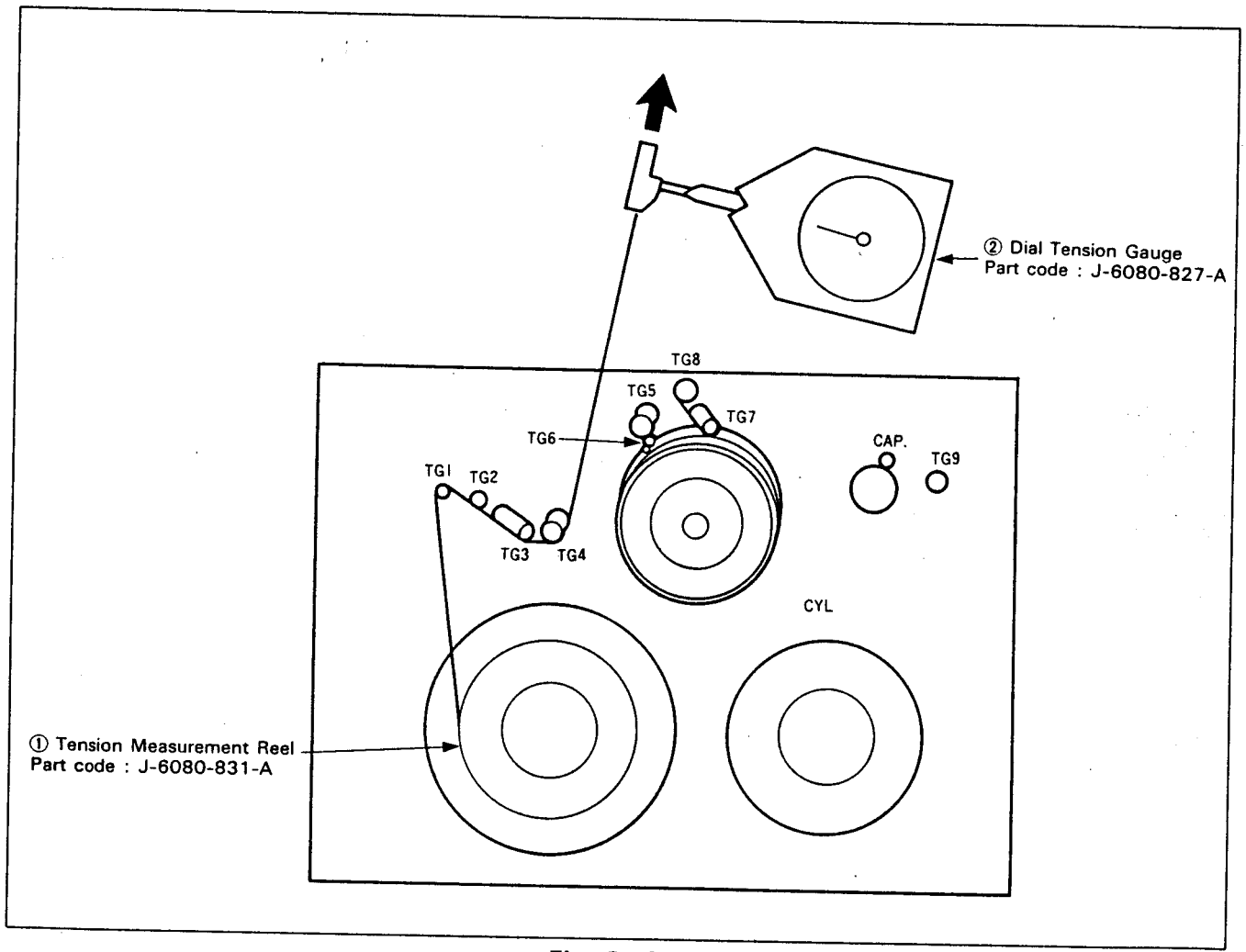


Fig. 2−34.

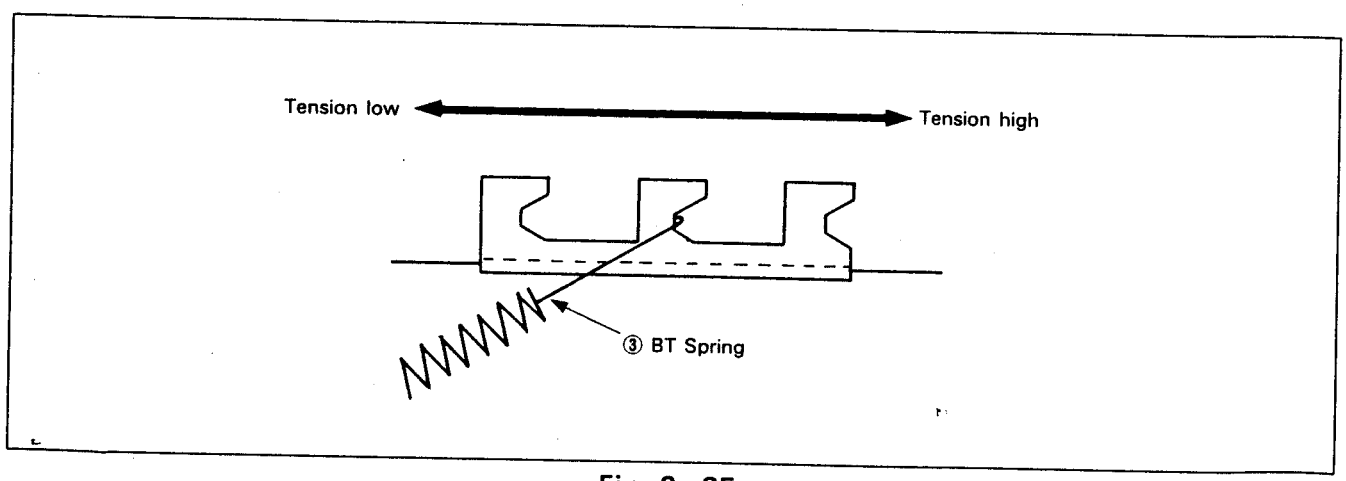


Fig. 2−35.

2–7. Tape Path Adjustment

(Shift Track)

The 8-mm video system employs a precision tracking ATF (automatic track finding) which uses 4 pilot signals to quickly control a tape running speed. This eliminates a tracking adjustment knob that would otherwise be required and yet can maintain an accurate tracking capability. The automatic system, however, has a minor disadvantage in adjusting the tape path because ATF corrects small misalignments.

For switching the SHIFT TRACK ON and OFF, refer to ADJUSTMENT mode in Section 3–1 System Control • Servo System Adjustment.

- **This adjustment should be done after completion of adjustments on camera section and video section.**

2–7–1. Connecting

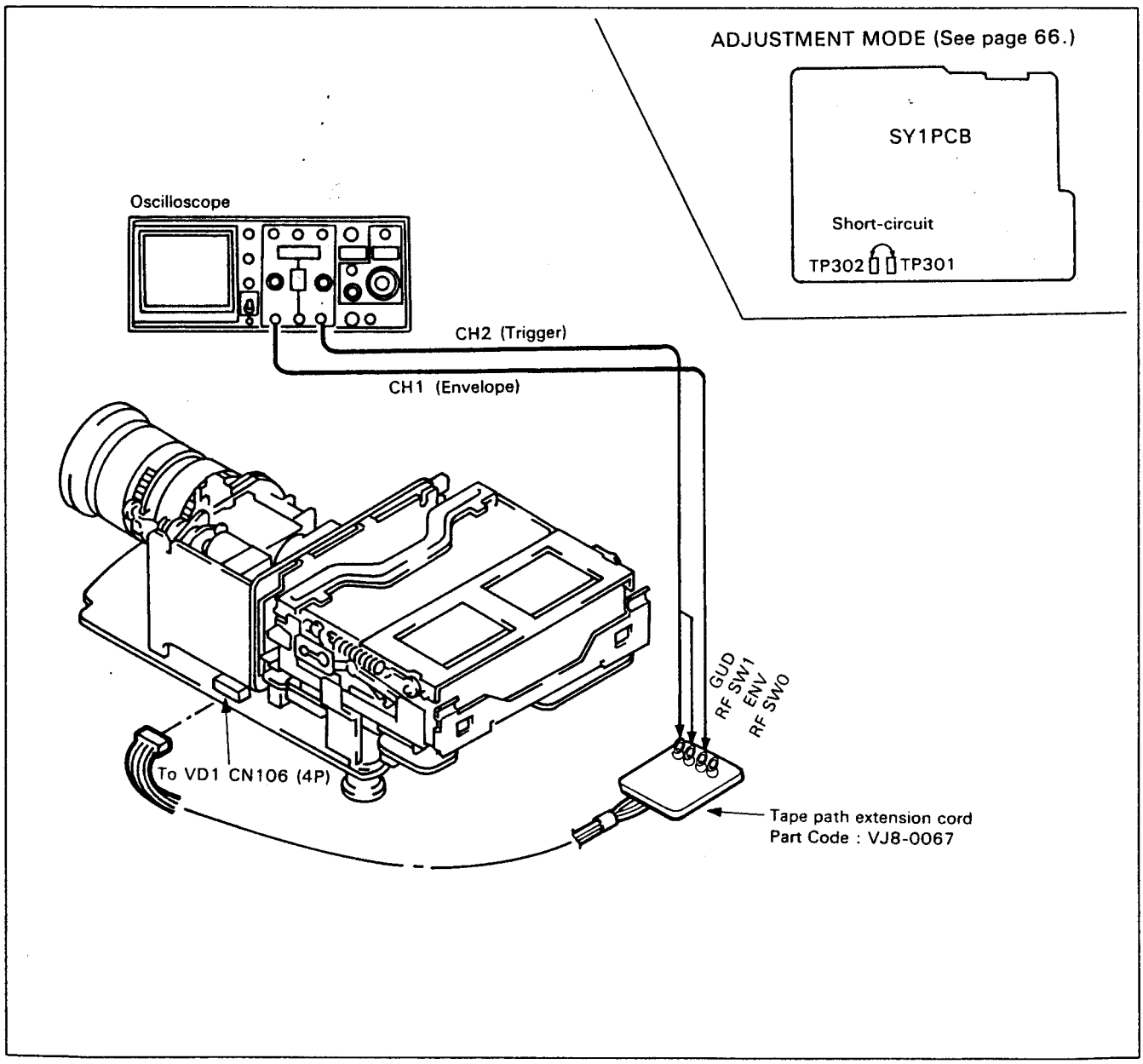


Fig. 2–36.

2−7−2. Preparation for adjustments

1) Clean the tape running surface (tape guide, cylinder, capstan shaft and pinch roller).
2) Referring to connection diagram connect the tape path extension cord and switch its SHIFT TRACK ON.
3) Connecting
   1 CH to ENV terminal
   2 CH to RF SW1 terminal (Ext. TRIG)
4) Run the tracking alignment tape (WR5-1C).
5) Verify on the scope that waveforms at entrance and exit are flat (See Fig. 2−37, ⓐ).
   If not (See Fig. 2−37, ⓑ and ⓒ), take the following step.
   Perform according to para 2−7−3, tracking coarse adjustment and go to 2−7−4, tracking fine adjustment.

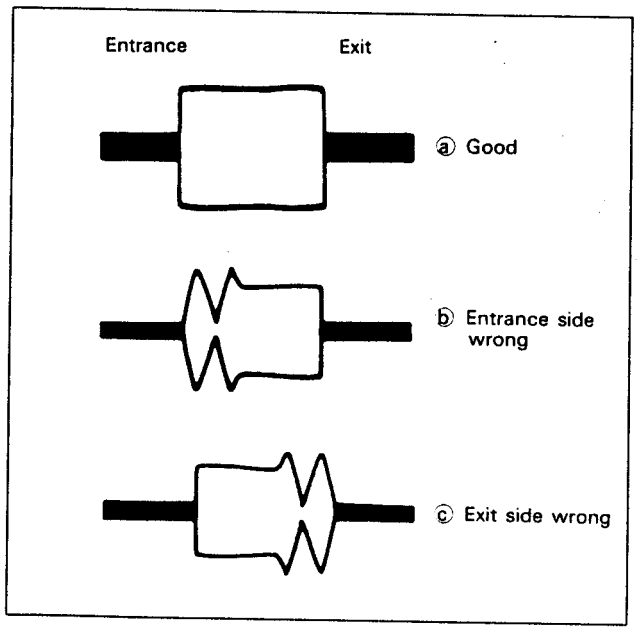


Fig. 2−37.

6) If the RF waveform is good, go to para 2−7−8, Checking After Adjustment.

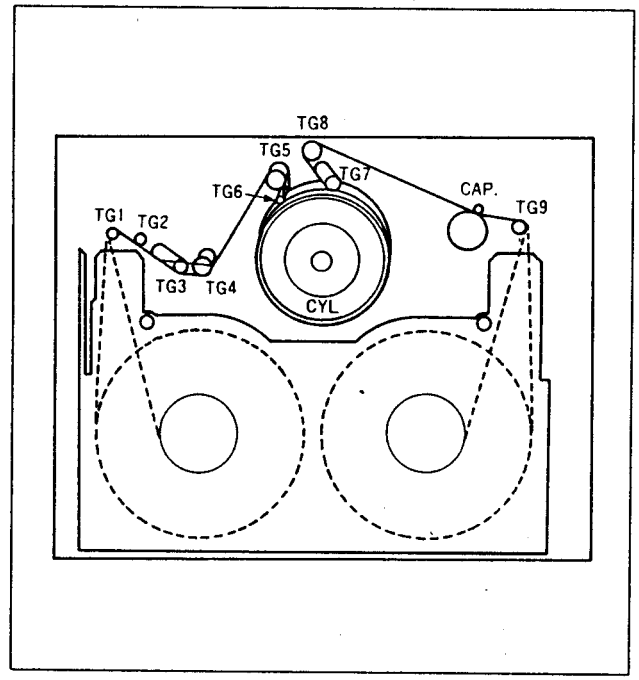


Fig. 2−38.

2−7−3. Tracking coarse adjustment

1) Run the tracking adjustment tape.
2) Adjust No.5 guide (TG5) for a flattened waveform at entrance side.
3) Adjust No.8 guide (TG8) for a flattened waveform at exit side.

2−7−4. Tracking fine adjustment

1) Run the tracking adjustment tape ; switch the SHIFT TRACK on and the RF wave form becomes about 2/3 of its maximum amplitude (see Fig.2−39).

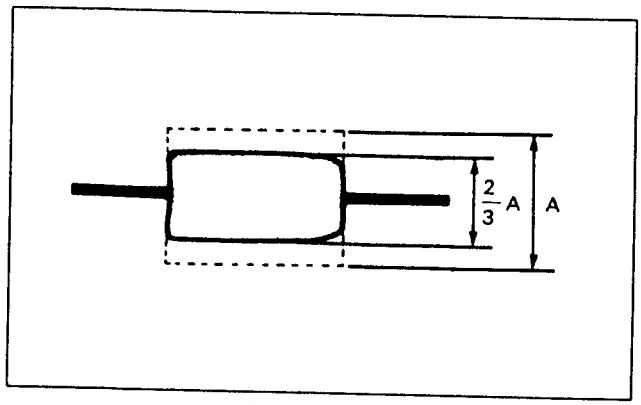


Fig. 2−39.

2) Make sure that the waveform is flat. If not, turn No.5 guide (TG5) and No.8 (TG8) for a flat waveform.

2−7−5. No.4 guide (TG4) adjustment

The height of No.4 guide must be first preset when it has been rotated or replaced by a new one.

Presetting height of No.4 guide

1) Screw TG4 nut until its slot bottom becomes flush with top of TG4 shaft (See Fig. 2−40 ⓐ).
2) Give TG4 nut one full counterclockwise turn. (360°) (See Fig. 2−40. ⓑ).

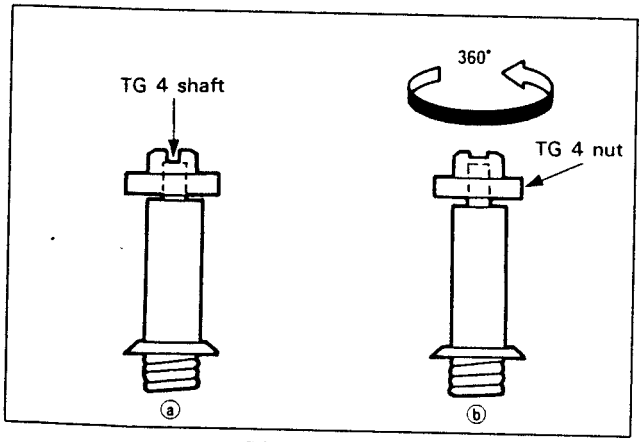


Fig. 2−40.

Adjusting No.4 guide (TG4)

1) Run a tracking alignment tape.
2) Switch the SHIFT TRACK OFF.
3) In REV mode, monitor the waveform (See Fig. 2−41.)
   - When the waveform is no good (as shown in Fig. 2−41. a), perform height preset steps of "Presetting Height of No.4 Guide" then go to the step 4) below.

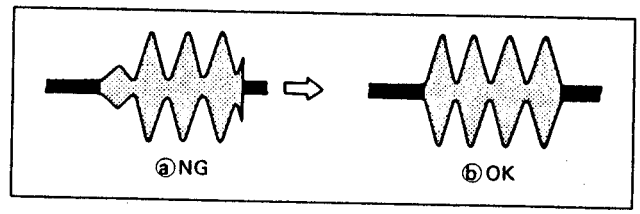


Fig. 2−41.

4) Rotate TG4 nut 90° clockwise. Repeat step 3). Repeat steps 3) and 4) until a correct waveform is obtained. Note that the tracking waveform (Fig. 2−39) remains unchanged during these steps. If it varies, fine adjust tracking at entrance side and go to step 3) again.

2−7−6. No.9 guide (TG9) adjustment

1) Run the tracking alignment tape ; set in PLAY mode.
2) Make sure there is no tape slack between No.9 guide (TG9) and capstan (See Fig. 2−42). If present, eliminate the slack by turning No.9 guide (TG9).
3) In REV mode, make sure there is no tape slack : less than 0.5 mm. If it exists, eliminate it by turning No.9 guide (TG9).

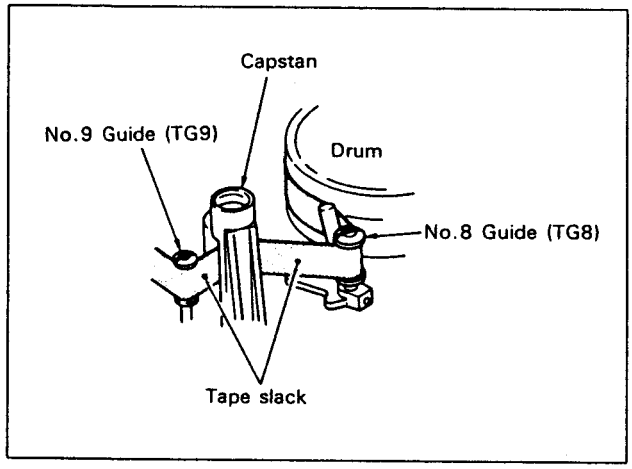


Fig. 2−42.

2−7−7. Verification of CUE and REV waveforms

1) Run the tracking alignment tape ; set in REV mode.
   Make sure that the waveforms have equidistant peaks (See Fig. 2−43).
   If not, perform according to para 2−7−4, Tracking Fine Adjustment, and 2−7− 5, No.4 Guide Adjustment.
2) Set in CUE mode. Make sure that the waveforms have equidistant peaks (See Fig. 2−43). If not, perform according to para 2−7−4, Tracking Fine Adjustment.

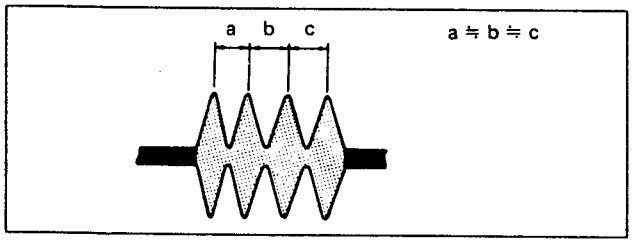


Fig. 2−43.

2−7−8. Checking after adjustments

1. Checking tracking performance

1) Run tracking alignment tape ;Switch the SHIFT TRACK ON,if OFF.the RF wave form becomes about 2/3 of its maximum amplitude (see Fig.2−44).
2) Make sure that the minimum amplitude (EMIN) is more than 75% of its maximum amplitude (EMAX) (See Fig. 2−45).
3) Verify existence of stable waveform amplitude (See Fig. 2−46).

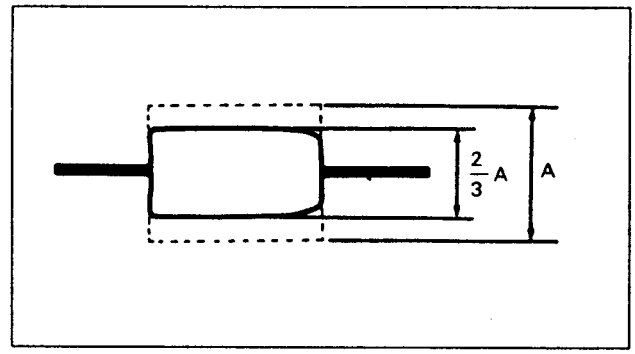


Fig. 2−44.

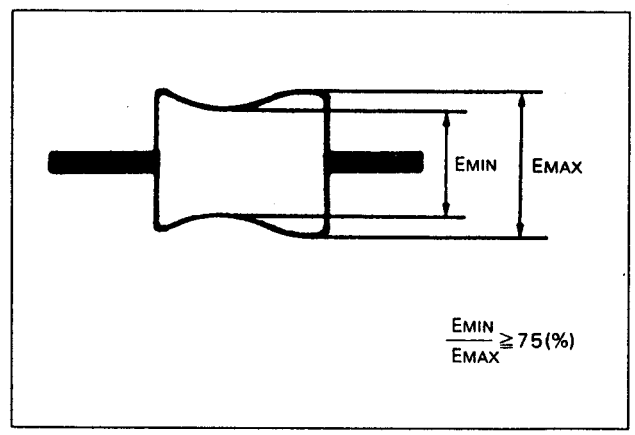


Fig. 2−45.

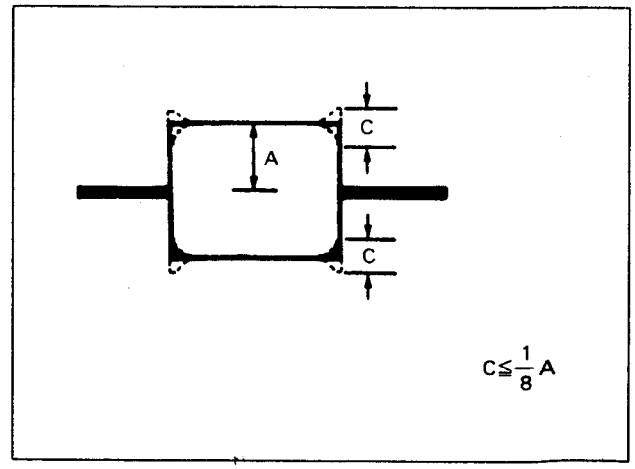


Fig. 2−46.

2. Checking Rise Time

1) Run tracking alignment tape.
2) Adjust LEVEL knob of the shift track jig so that the RF waveform is at its maximum amplitude.
3) Eject the cassette and reload it again.
4) Set in PLAY mode and verify fast rise of RF waveform leading edges.
   Also verify absence of slack around the pinch roller (See Fig. 2−42).
5) Replay the tape after each CUE, REV, FF and REW operation ; verify that all waveforms have fast rising edges.

3. Checking Tape Running

In PLAY mode, verify the absence of clearance between tape edge and No.4 guide lower flange, No.5 guide upper flange and No.8 guide upper and lower flanges. Also verify the absence of curls at No.9 guide on upper and lower flanges (See Fig. 2−47).

Note : When the tape path adjustment is completed, remove the short-circuit from TP301 and TP302 to cancel the adjustment mode.

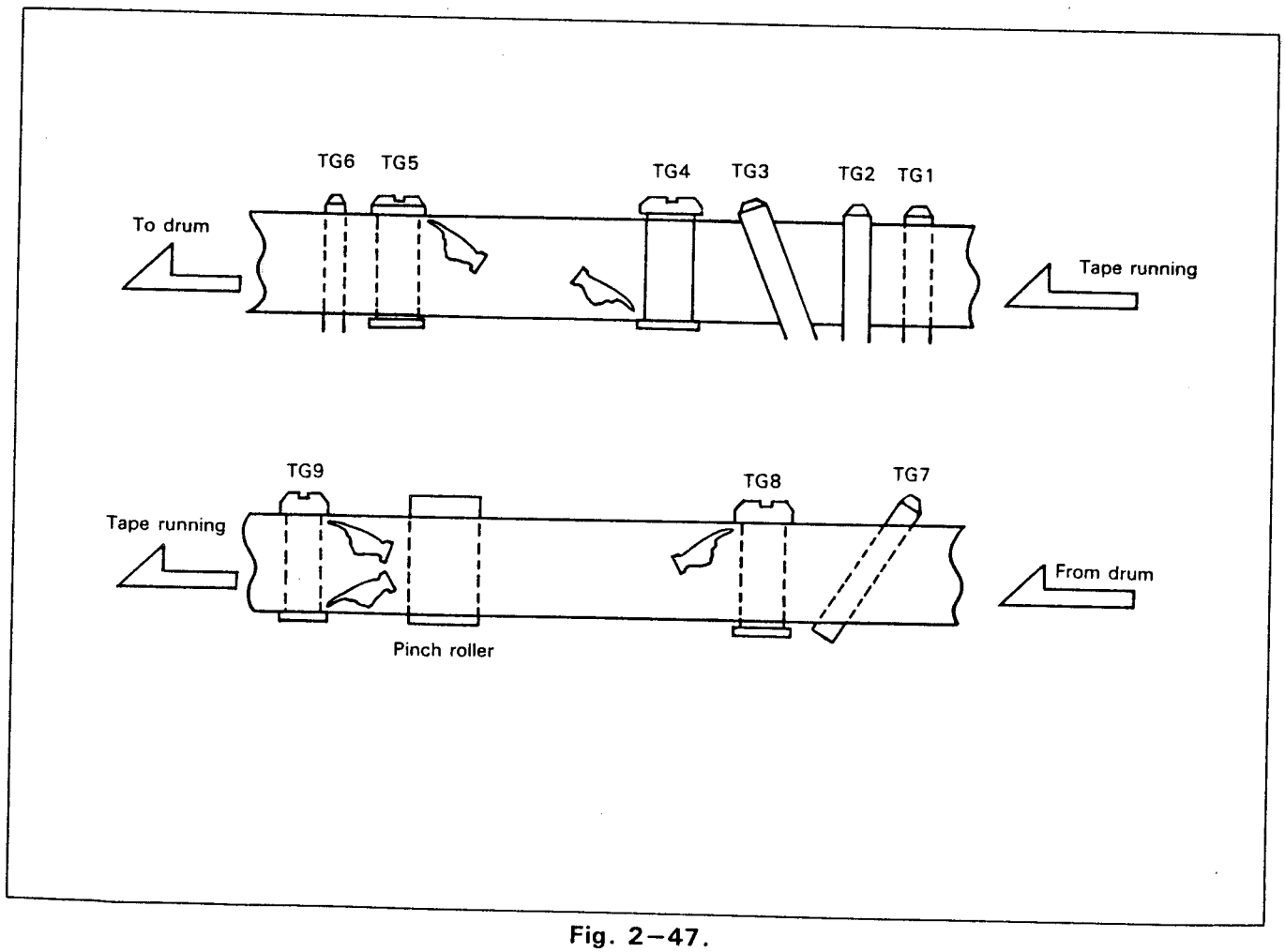


Fig. 2−47.

3. VIDEO ADJUSTMENT

[Equipment required]

1) Monitor TV
2) Two-channel oscilloscope, 10 MHz or better, with delay mode (Use a 10:1 probe, unless otherwise specified.)
3) Frequency counter
4) Pattern generator with video output terminals
   Note : The pattern generator must be capable of switching chroma signal OFF.
5) Regulated power supply
6) Alignment tapes (Jig)
7) MP tape
8) Jigs as shown in Figs. 3−1a and 3−1b.

[Alignment tapes]

Operation Checking (WR5-5CSP) Part code : 8-967-995-47

Tape	Contents	Use
Operation Check (WR5-5CSP)	1. Record area : PCM to video 2. Record contents : Color bars, monoscope (SP) Audio signals (FM), PCM audio signals	Operation checking

[Jigs]

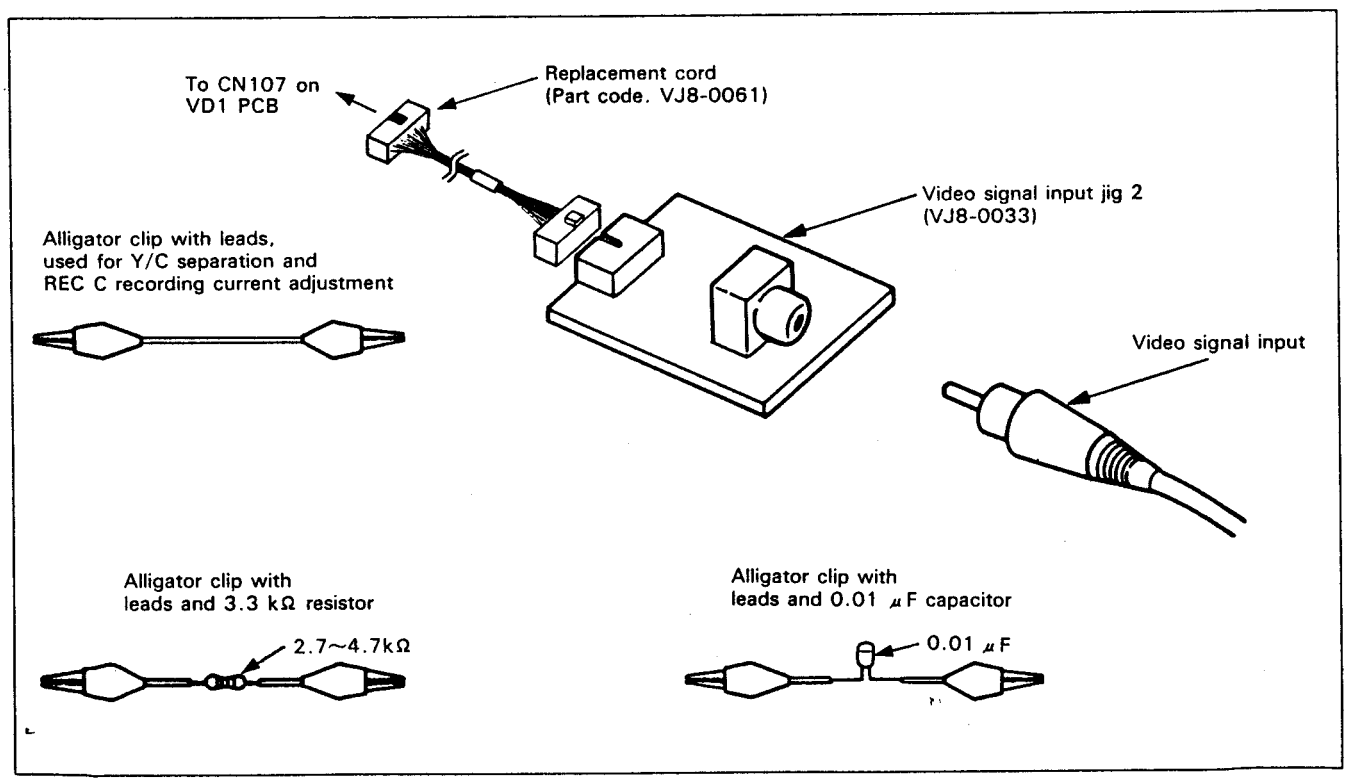
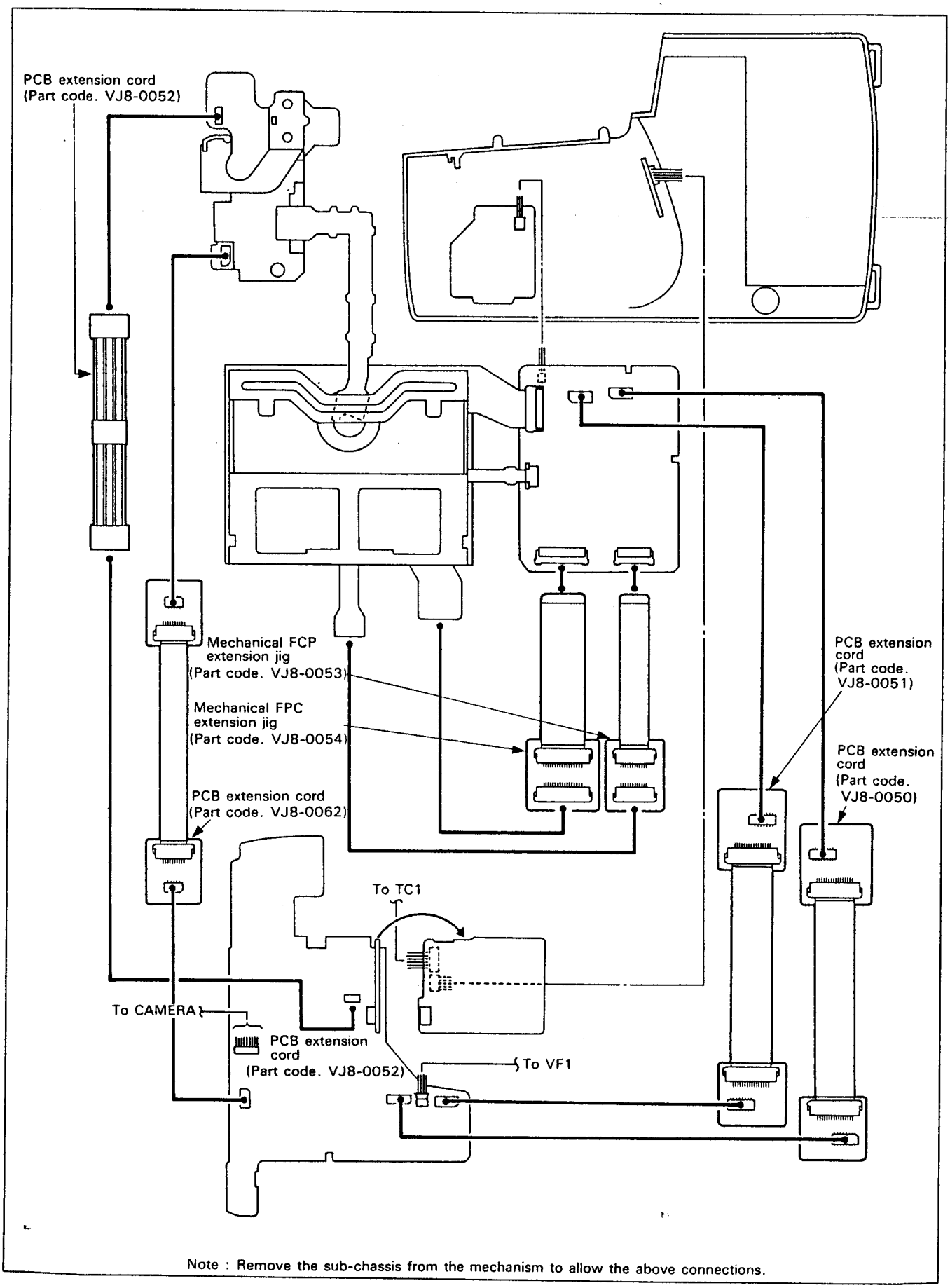

To CN107 on VD1 PCB
Replacement cord (Part code. VJ8-0061)
Video signal input jig 2 (VJ8-0033)
Alligator clip with leads, used for Y/C separation and REC C recording current adjustment
Video signal input
Alligator clip with leads and 3.3 kΩ resistor
2.7~4.7kΩ
Alligator clip with leads and 0.01 μF capacitor
0.01 μF

Fig. 3−1a.



Note : Remove the sub-chassis from the mechanism to allow the above connections.

Fig. 3–1b.

[Equipment connections for adjustment]

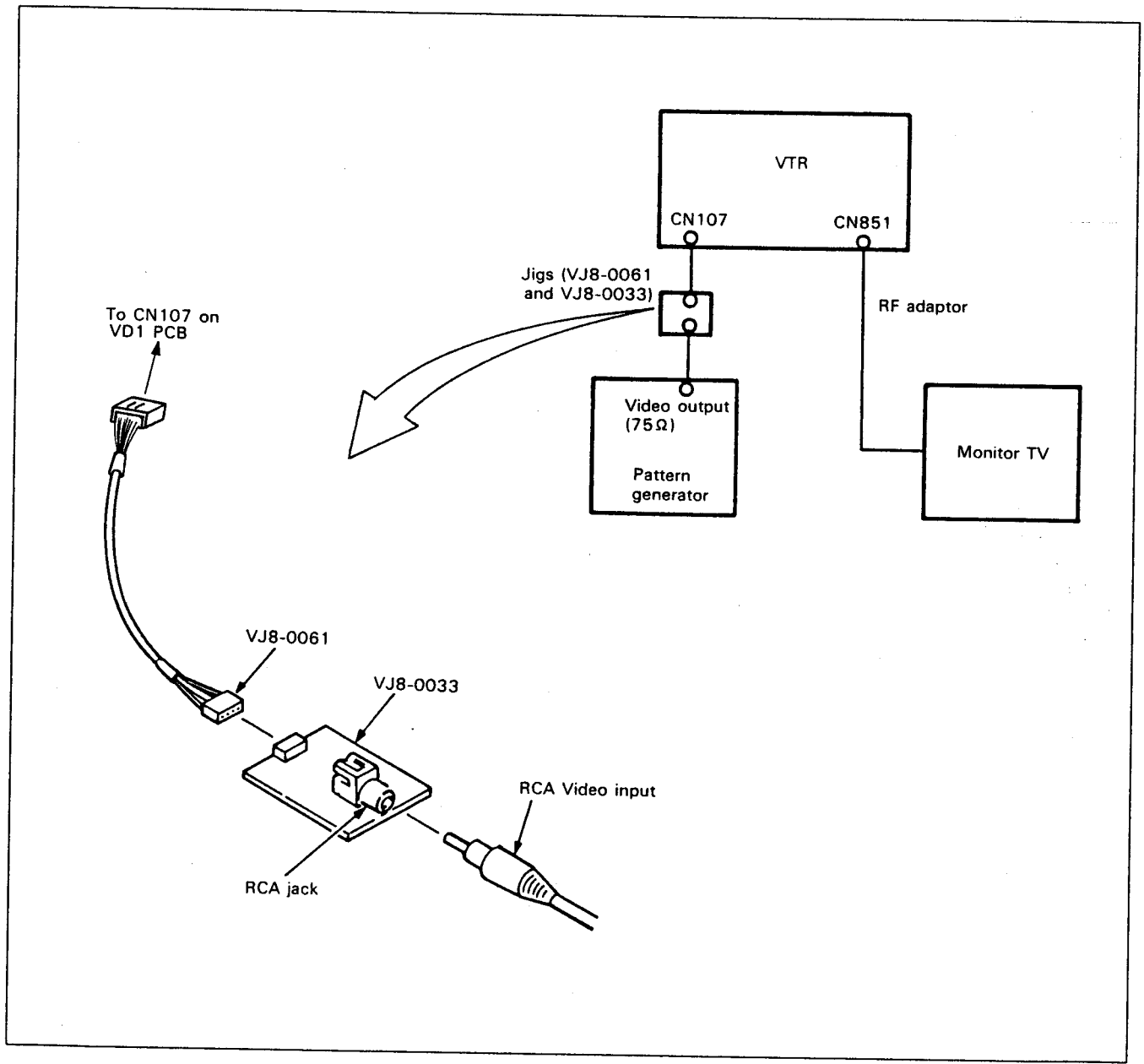


Fig. 3–2. Connections

[Adjustment setups]

A video signal is necessary for VTR adjustment. It is generated by a pattern generator. The video signal must satisfy the following requirements : The amplitude of the synchronization signal of the video signal must be approximately 0.3 V, the amplitude of the video signal must be approximately 0.7 V, the amplitude of the burst signal must be approximately 0.3 V and flat, and the ratio between burst signal level and red signal level must be 0.30 : 0.66, as measured with the oscilloscope connected to pin 5 (CAMERA Y) of CN107 on VD1 PCB. The video signal to be used for VTR adjustments is illustrated in Fig. 3–3.

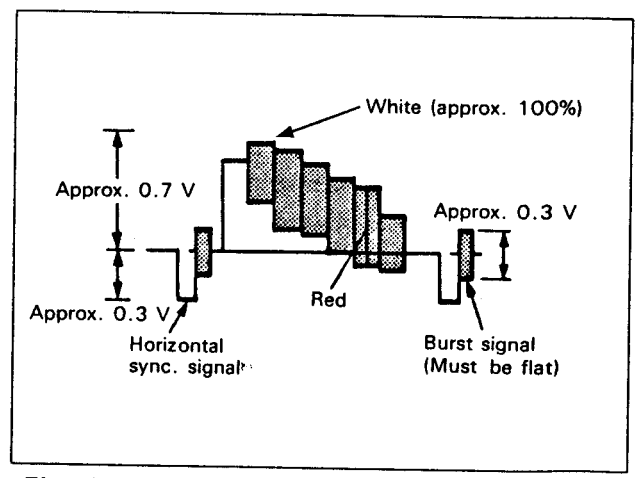


Fig. 3–3. Pattern generator color bar signals

3−1. System Control • Servo System Adjustment

[Adjustment Procedure]

1) Battery failure adjustment
2) H sync oscillation frequency adjustment
3) Mark position adjustment
4) Video center adjustment
5) Still adjustment

[Adjustment mode]

Short-circuiting TP301 to TP-302 (SY1) brings about adjustment mode. In the adjustment mode, mode transfers as shown in Fig. 3−4. can be performed, making various adjustments easier.

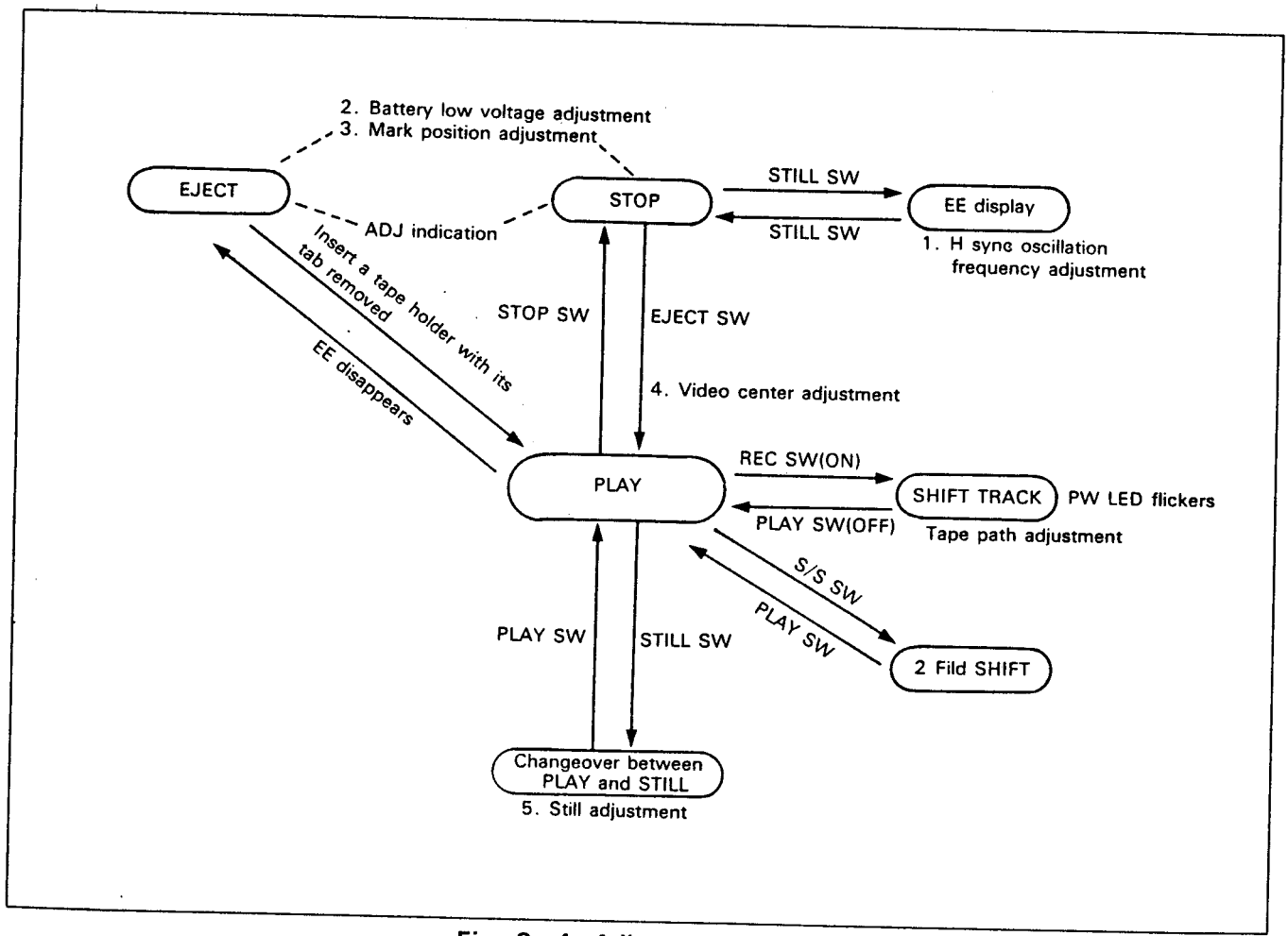


Fig. 3−4. Adjustment mode.

3−1−1. Battery failure adjustment

Measuring instrument : Digital voltmeter
Mode : STOP mode (Power ON)
VR to be adjusted : VR351
Setup : Set the battery terminal voltage to 5.70 V with the camera block connected, or to 5.68 V with no camera block connected.
Procedure : Adjust VR351 so that the center mark of the adjustment mode display flickers. (See Fig. 3−5.)

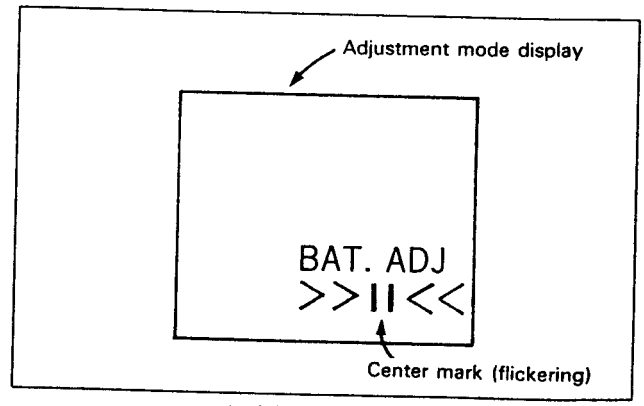


Fig. 3−5.

3−1−2. H sync oscillation frequency adjustment

Measuring instruments : Digital voltmeter and frequency counter
Mode : STOP mode (Power ON)
Measuring point : TP321 (SV1)
VR to be adjusted : VR321
Setup : Press STILL SW (EE disappears). The power supply voltage must be 7.5 V.
Adjustment procedure : Adjust VR 321 so that the oscillation frequency, f_H, is 16.2±0.1 kHz for NTSC, or 16.1±0.1 kHz for PAL. Press STILL SW to return to STOP mode.

3−1−3. Mark position adjustment

Mode : STOP mode (Power ON)
CT to be adjusted : CT321
Setup : The power supply voltage must be 7.5 V.
Adjustment procedure : Adjust CT321 so that the center mark of the display is centered.

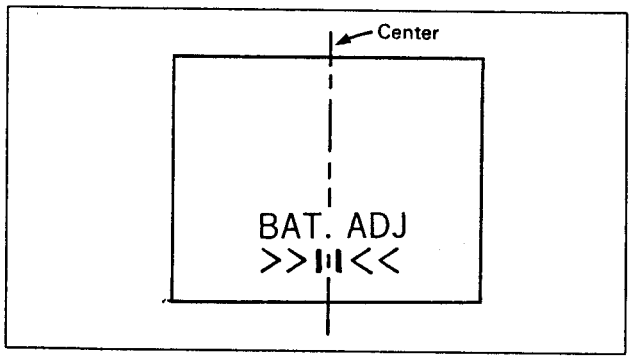


Fig. 3−6.

3−1−4. Video center adjustment

Measuring instrument : Oscilloscope
Mode : PLAY mode
Measuring points : Pin ④ of CN106 (VD1) for RF SWO trigger, and Pin ⑨ TP109 (VD1) for video signal output
VR to be adjusted : VR352
Setup : The power supply voltage must be 7.5 V.
Adjustment procedure : Adjust VR352 so that the period from the edge of the RF SWO to the start of V sync signal is 6.5 H.

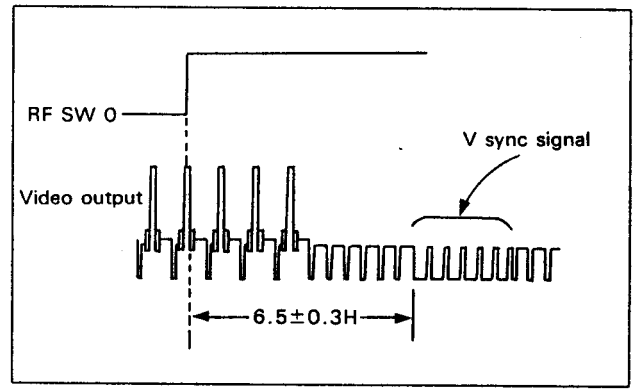


Fig. 3−7.

3−1−5. Still adjustment

Mode : PLAY mode
VR to be adjusted : VR353
Setup : The power supply voltage must be 7.5 V. Self-recording (use the center portion of a 90-min tape).
Adjustment procedure : Press STILL SW in PLAY mode. (Changeover between PLAY and STILL is feasible.).
Adjust VR353 so that the still noise is located at the bottom of the screen.

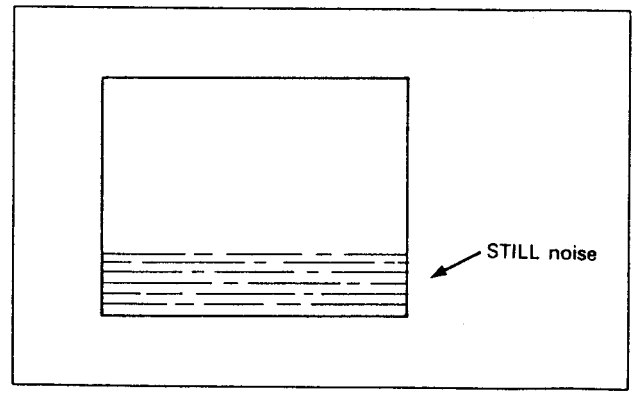


Fig. 3−8.

When the control servo system adjustment is completed, remove the short-circuit from TP301 and TP302 to cancel the adjustment mode.

3−2. Video System Adjustment

Normally, adjustment of the video system must be done following the sequence stated below.
A color video signal is used as the video input signal during record mode video system adjustment. The video signal, as generated by a pattern generator, must satisfy the adjustment setup requirements illustrated in Fig. 3−3.

[Adjustment sequence]

1) Playback output level check
2) Flying erase check
3) SYNC AGC adjustment
4) Y/C separation adjustment
5) BF position adjustment
6) PB Y level adjustment
7) PB LINE OUT level adjustment
8) Y FM carrier frequency adjustment
9) Y FM deviation adjustment
10) REC Y recording current adjustment
11) REC C recording current adjustment
12) REC AFM recording current adjustment
13) REC ATF recording current adjustment

3−2−1. Playback output level check (VD1)

Information in brackets [ ] is for CH-A2 or -B2.
Measuring instrument : Oscilloscope
Mode : Playback
Measuring points : Pin ③ of CN106 [Pin ③ of CN106] for PB RF ; Pin ② of CN106 [Pin ② of CN106] for trigger RF SW1; + [−] for trigger slope
Alignment tape : WR5-5CSP
Procedure : Check that the PB PF output level is 400 ± 80mVp-p.
If not, the PCB (VP-1) or cylinder may be defective. Replace the PCB, or clean the cylinder. If creaning of the cylinder does not solve the problem, replace the cylinder, adjust the mechanism, and perform flying erase check again.

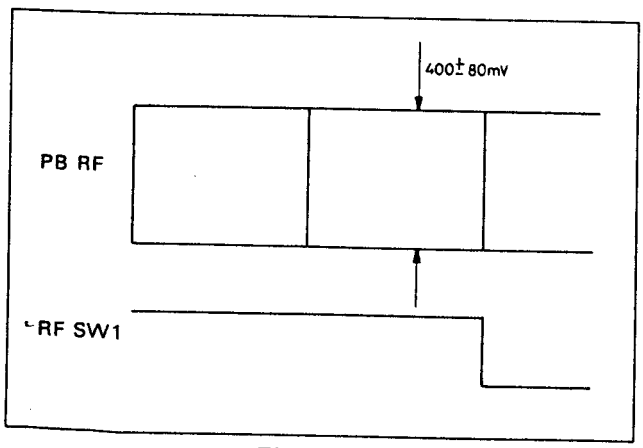


Fig. 3−9.

3−2−2. Flying erase check (VP1)

Measuring instrument : Oscilloscope
Mode : Recording
Measuring point : TP151 (erase check)
Input signal : Not specified
Procedure : Check that the oscillation frequency is 7.5 MHz or higher, and that the oscillation voltage is 7.0 Vp-p or greater.
If not, the PCB may be defective ; Replace the VP-1 PCB assy.

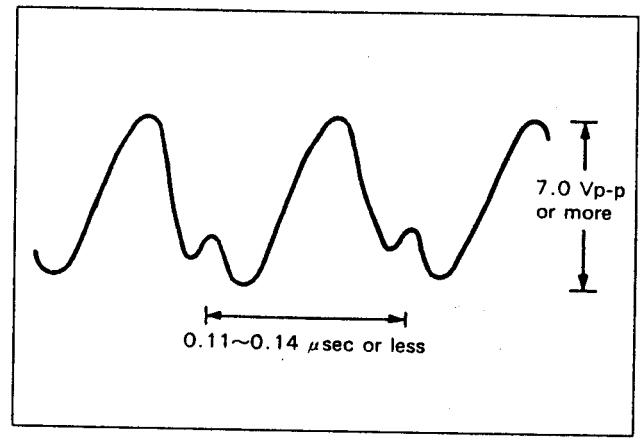


Fig. 3−10.

3−2−3. SYNC AGC adjustment (VD1)

Measuring instrument : Oscilloscope
Mode : Recording
Measuring point : TP102
Input signal : Color bar (Y signal only)
VR to be adjusted : VR101
Adjustment procedure : Adjust VR101 so that the white level as shown in Fig. 3−11. is 0.5±0.01 Vp-p.

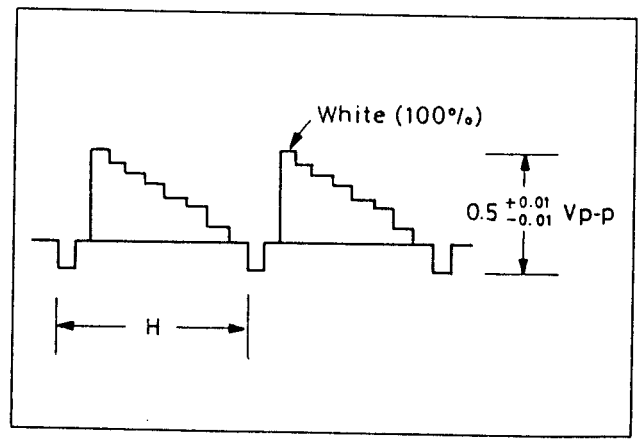


Fig. 3−11.

3–2–4. Y/C separation adjustment (VD1)

Measuring instrument : Oscilloscope
Mode : Recording
Measuring point : TP110
Input signal : Color bar (composite signal)
VR to be adjusted : VR102
Setup : Short-circuit TP103 to TP108 (GND) with an alligator clip with lead. Short-circuit TP141 to TP108 (GND) with an alligator clip with a capacitor (0.01μF) and lead.
Adjustment procedure : Adjust VR102 so that the level of the persisting chroma signal is minimized.

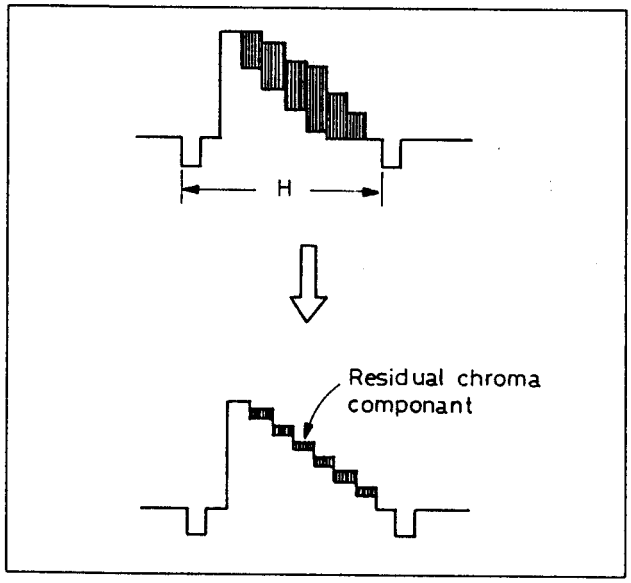


Fig. 3–12.

3–2–5. BF position adjustment (VD1)

Measuring instrument : Oscilloscope
Mode : Recording
Measuring point : TP106
Input signal : Color bar (composite signal)
VR to be adjusted : VR103
Setup : Short-circuit TP106 to TP108 with an alligator clip with a resistor and lead.
Adjustment procedure : Adjust VR103 so that the burst flag (BF) is 6.0± 0.1 μsec.

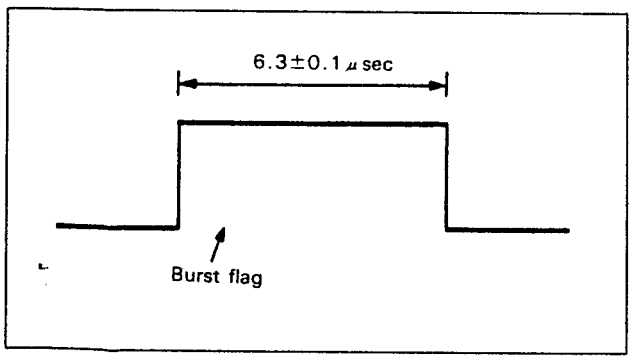


Fig. 3–13.

3–2–6. PB Y level adjustment (VD1)

Measuring instrument : Oscilloscope
Mode : Playback
Measuring point : TP104
Alignment tape : WR5-5CSP (color bar portion)
VR to be adjusted : VR106
Adjustment procedure : Adjust VR106 so that the PB Y level is 0.5±0.01 Vp-p.

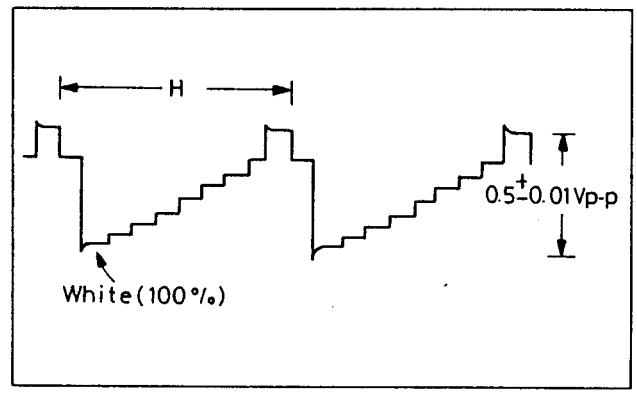


Fig. 3–14.

3–2–7. PB LINE OUT level adjustment (VD1)

Measuring instrument : Oscilloscope
Mode : Playback
Measuring point : TP109
Alignment tape : WR5-5CSP (color bar portion)
VR to be adjusted : VR107
Setup : An RF adaptor must be connected, and the video output terminals be equipped with a 75 ohm resistor.
Adjustment procedure : Adjust VR107 so that the PB LINE OUT level is 1.00±0.02 Vp-p.

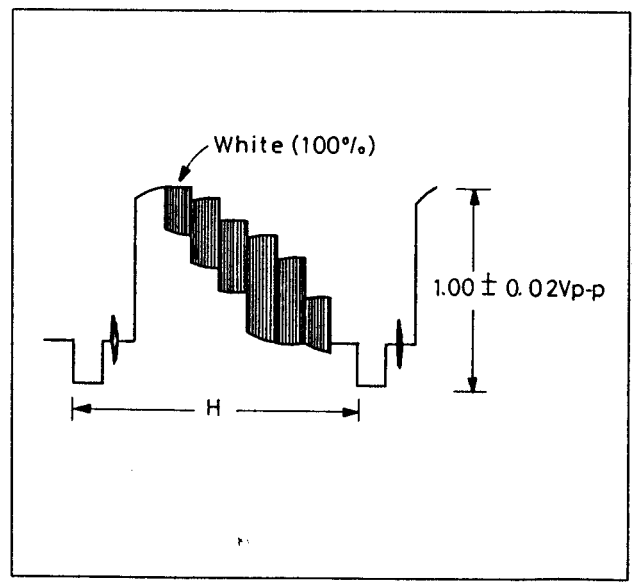


Fig. 3–15.

3−2−8. Y FM carrier frequency adjustment (VD1)

Measuring instruments : Oscilloscope and frequency counter
Mode : Recording
Measuring point : TP112
Input signal : None
VR to be adjusted : VR104
Adjustment procedure : Adjust VR104 so that frequency is 4388±30 kHz.
Note : With the frequency set at 4380 kHz, a frequency of 4.20 MHz is obtained when a signal exists.

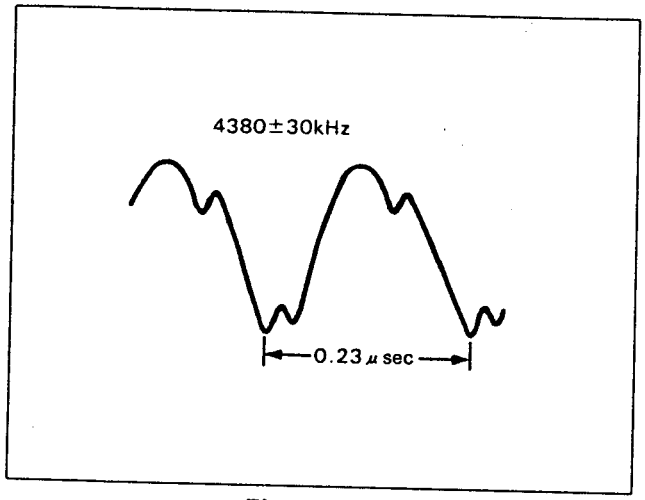


Fig. 3−16.

3−2−9. Y FM deviation adjustment

Measuring instrument : Oscilloscope
Modes : Recording and playback
Measuring point : TP109
Input signal : Color bar (Y signal only)
VR to be adjusted : VR105
Setup : An RF adaptor must be connected, and the video output terminals must be equipped with a 75 ohm resistor. SYNC AGC, PB Y level, PB LINE OUT level, and Y FM carrier frequency adjustments must be done.
Adjustment procedure :
1) Record the color bar (Y signal).
2) Playback the recorded level.
3) Check that the level is 1.00±0.05 Vp-p (standard level).
4) If the level is not the standard level, adjust VR105 (see the table below), and repeat steps 1) through 3) above.

	Rotation direction of VR105
If exceeds the standard level	Counterclockwise (↺)
If below the standard level	Clockwise (↻)

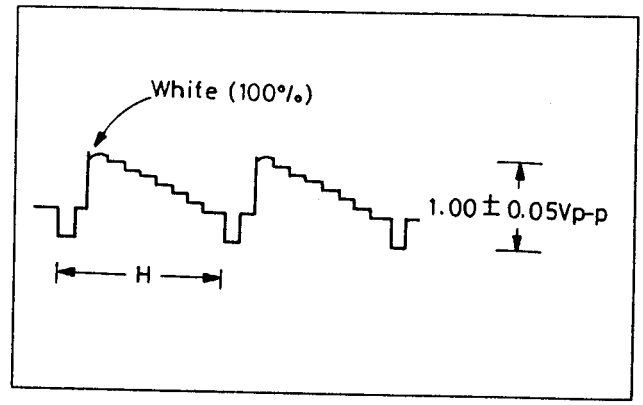


Fig. 3−17.

3−2−10. REC Y recording current adjustment (VD1)

Measuring instrument : Oscilloscope
Mode : Recording
Measuring point : TP112
Input signal : None
Tape to be used : MP type
VR to be adjusted : VR111
Adjustment procedure : Adjust VR111 so that the amplitude as shown in Fig. 3−18. is 330±10 mVp-p.

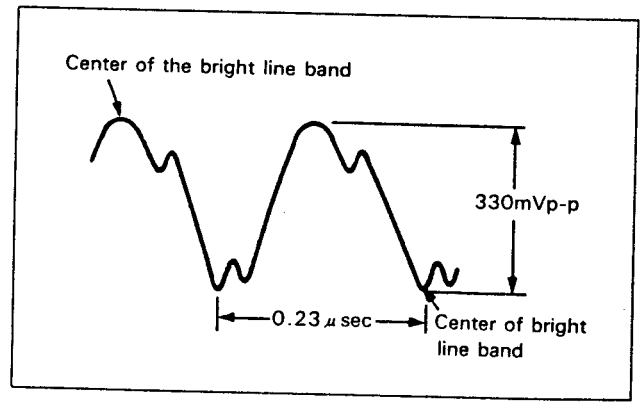


Fig. 3−18.

3−2−11. REC C recording current adjustment (VD1)

Measuring instrument : Oscilloscope
Mode : Recording
Measuring point : TP112
Note : IF the signal level is too low to read, use a 1 : 1 probe, or a coaxial cable (of 100 pF or less) connected in series with a 100 ohm resistor as shown in Fig. 3−19, instead of a 10 : 1 probe.

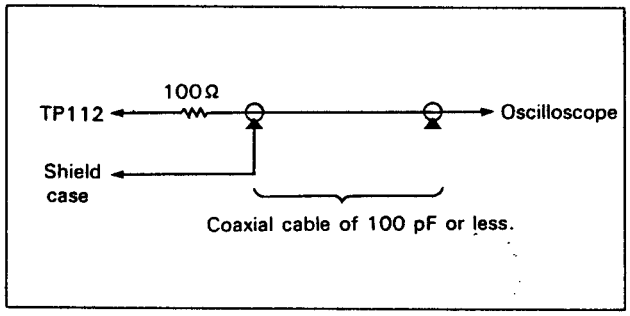


Fig. 3−19.

Input signal : Color bar (composite signal)
Tape to be used : MP type
VR to be adjusted : VR110
Setup : ● Short-circuit TP103 to TP108 (GND) with an alligator clip with lead.
● Short-circuit VD1 CL. Y checker land to ground, and VD1 CL. P checker land to ground, with a jump lead (see Fig. 3−21).
● Connect a 0.01 μF capacitor across Pin ⑪ and Pin ⑮ (GND) of VD1 IC201.
Procedure : Adjust VR110 so that the burst level is 52 mVp-p.

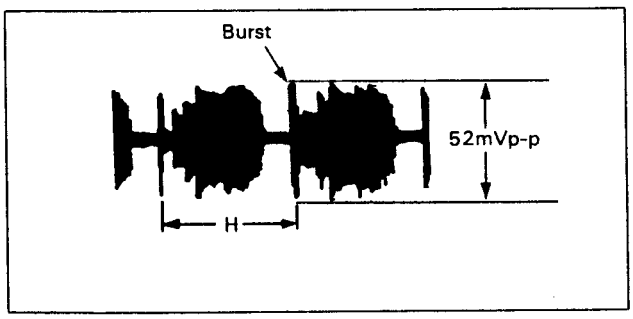


Fig. 3−20.

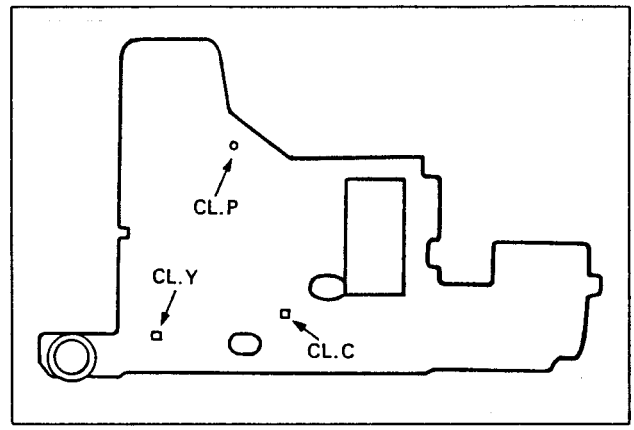


Fig. 3−21.

3−2−12. REC AFM recording current adjustment (VD1)

Measuring instrument : Oscilloscope
Mode : Recording
Measuring point : TP112
Note : If the signal level is too low to read, use a 1 : 1 probe, or a coaxial cable (of 100 pF or less) connected in series with a 100 ohm resistor as shown in Fig. 3−19, instead of a 10 : 1 probe.
Input signal : Not specified
Audio input signal : None
Tape to be used : MP type
VR to be adjusted : VR108
Setup : Short-circuit VD1 CL. Y checker land to ground, VD1 CL. C checker land to ground, and VD1 CL. P checker land to ground, with a jump lead (see Fig. 3−21).
Adjustment procedure : Adjust VR108 so that the amplitude as shown in Fig. 3−22 is 13 mVp-p.

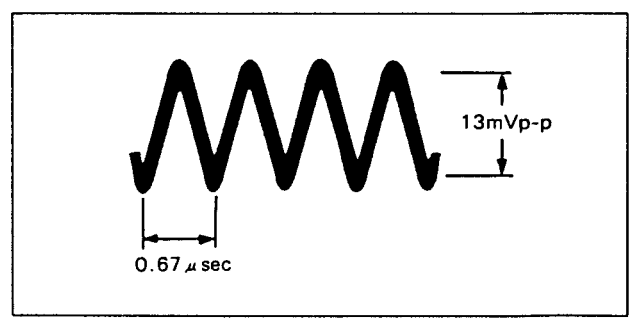


Fig. 3−22.

3−2−13. REC ATF recording current adjustment (VD1)

Measuring instrument : Oscilloscope
Mode : Recording
Measuring point : TP112
Note : If the signal level is too low to read, use a 1 : 1 probe, or a coaxial cable (of 100 pF or less) connected in series with a 100 ohm resistor as shown in Fig. 3−19, instead of a 10 : 1 probe.
Input signal : Not specified
Tape to be used : MP type
VR to be adjusted : VR109
Setup : Short-circuit VD1 CL. Y checker land to ground, and VD1 CL. C checker land to ground, with a jump lead (see Fig. 3−21). Connect a 0.01 μF capacitor across Pin ⑪ and Pin ⑮ of VD1 IC201.
Adjustment procedure : Adjust VR109 so that the amplitude as shown in Fig. 3−23. is 15 mVp-p.

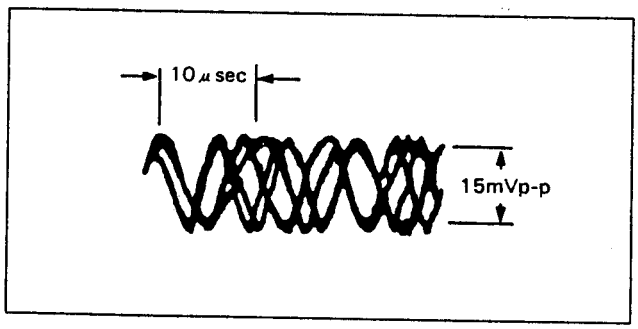


Fig. 3−23.

3−3. Audio System Adjustment

3−3−1. Audio system measuring setup

In addition to the video measuring equipment, connect the audio measuring equipment as shown in Fig. 3−24. Since the level of the audio input is very low, take necessary measures to avoid induction noise interference.

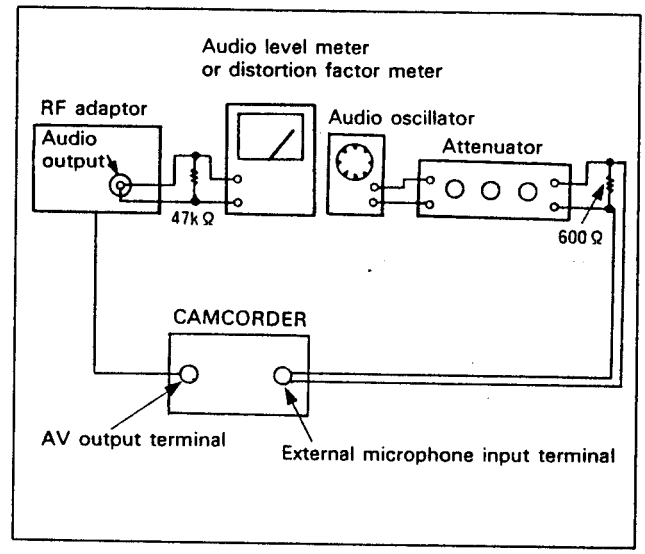


Fig. 3−24.

[Adjustment sequence]

1) FM audio carrier frequency check
2) FM audio deviation check
3) E-E output level check
4) Overall level characteristics check
5) Overall distortion factor check
6) Overall S/N check

3−3−2. FM audio carrier frequency check (VD1)

Measuring instrument : Frequency counter
Mode : Recording
Measuring point : Pin ⑪ of IC201
Audio input signal : None.
Adjustment procedure : Check that the frequency is 1.50±0.01 MHz.

3−3−3. FM audio deviation check (VD1)

Measuring instrument : Audio level meter
Mode : Playback
Measuring point : RF adaptor (audio output)
Alignment tape : WR5-5CSP
Adjustment procedure : Check that the audio output level is −6±2 dBs.

3−3−4. E-E output level check

Measuring instrument : Audio level meter
Mode : E-E or recording
Measuring point : RF adaptor (audio output)
Adjustment procedure : Check that the audio output level is −6±3 dBs.

3−3−5. Overall level characteristics check

Measuring instrument : Audio level meter
Mode : Self-recording (playback for check)
Measuring point : RF adaptor (audio output)
Audio input signal : 400 Hz, −64 dBs
Tape to be used : MP type
Adjustment procedure : Check that the audio output level is −6±3 dBs.

3−3−6. Overall distortion factor check

Measuring instrument : Distortion factor meter
Mode : Self-recording (playback for check)
Measuring point : RF adaptor (audio output)
Audio input signal : 400 Hz, −64 dBs
Tape to be used : MP type
Adjustment procedure : Check that the distortion factor is 1.0% or less.

3−3−7. Overall S/N check

Measuring instrument : Audio level meter
Mode : Self-recording (playback for check)
Measuring point : RF adaptor (audio output)
Audio input signal : None (Short-circuit the external microphone input terminals.)
Tape to be used : MP type
Adjustment procedure : Check that the difference between the playback level as determined in 3−3−5. and the playback level as determined in this check is 40 dBs or more.

4. EVF ADJUSTMENTS

4−1. Equipment Required

1. Oscilloscope
2. Frequency counter
3. Alignment tape
   For performance check : WR5-5CSP
   Part code : 8-967-995-47

4−2. Adjustment Priority

Note : The following adjustments must be made in the following order.

1. Horizontal frequency oscillation adjustment
2. Finder temporary adjustment
3. Centering adjustment
4. Horizontal size and finder tilt adjustments
5. Vertical size adjustment
6. Contrast adjustment
7. Brightness adjustment
8. Focus adjustment

4−3. Horizontal Frequency Oscillator Adjustment

Mode : E-E
Input signal : none
Frequency counter : Checker land shown in Fig. 4−1.

[Adjustment procedure]

Adjust VR001 for 16,000±50 Hz.

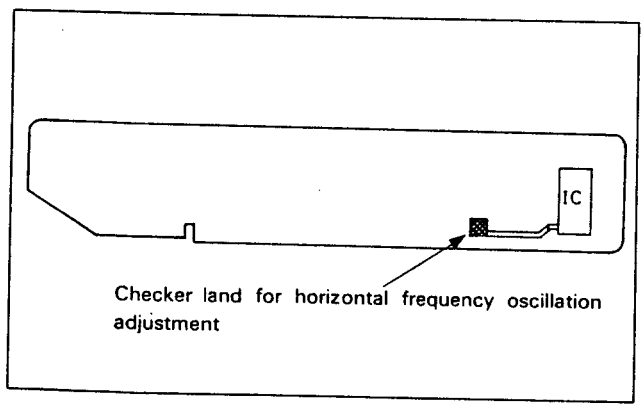


Fig. 4−1.

4−4. Finder Temporary Adjustment

Mode : Play
Alignment tape : Performance check tape (WR5-5CSP) (Monoscope)

[Adjusting procedure]

1) Adjust VR0005 (BRIGHT) for a suitable brightness.
2) Adjust VR0002 (V SIZE) for suitable size of picture.
3) Adjust VR0003 (CONTRAST), VR0005 (BRIGHT) and VR0004 (FOCUS) for a suitable screen size.
4) Shift DY in the direction of the arrow of Fig. 4−2. to eliminate gap B.

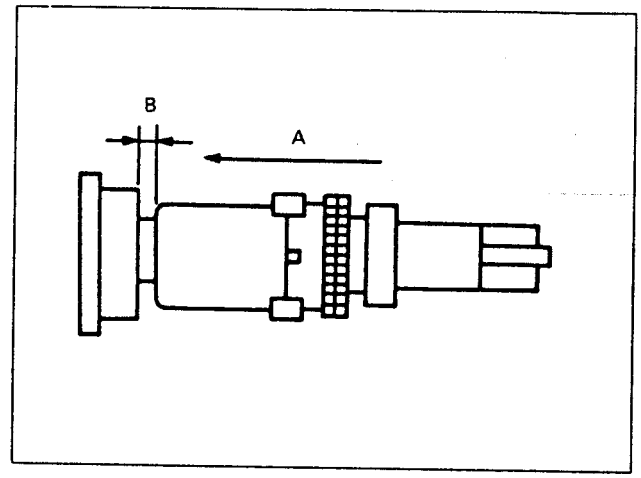


Fig. 4−2.

4−5. Centering Adjustment

Mode : Play
Alignment tape : Performance check tape (WR5-5CSP) (Monoscope)

[Adjustment procedure]

1) Rotate alignment magnet for a centered picture.
2) Lock the alignment magnet with lacquer enamel.

4−6. Finder Tilt Adjustment

1) Rotate the deflection coil so that tilting angle of the picture is 0±1.5° or less.
2) Turn the yoke clamp clockwise to secure the deflection coil.

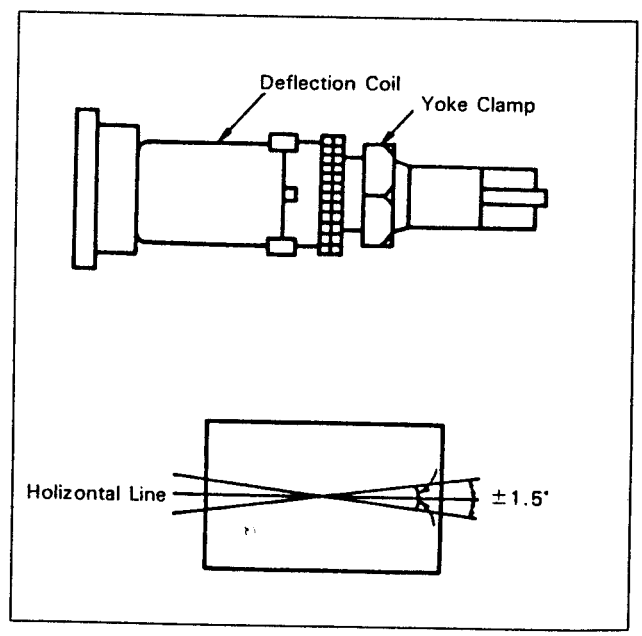


Fig. 4−3.

4−7. Vertical Size Adjustment

Mode : Play
Alignment tape : Performance check tape (WR5-5CSP) (Monoscope)

[Adjustment Procedure]

Adjust VR0002 so that A and B are equal to each other in size as shown in Fig. 4−4. (circled pattern has true roundness).

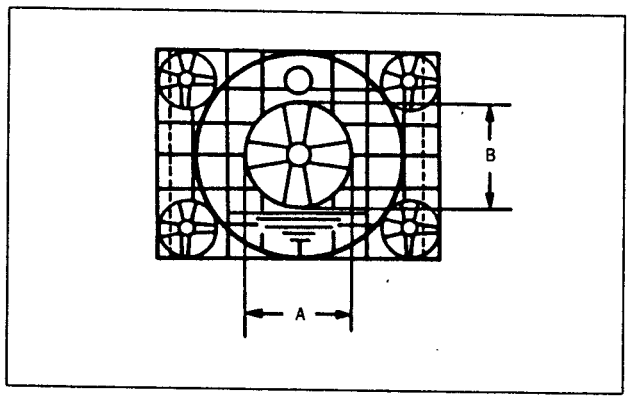


Fig. 4−5.

4−8. Contrast Adjustment

Mode : Play
Alignment tape : Performance check tape (WR5-5CSP) (Monoscope)

[Adjustment Procedure]

Adjust VR0003 for 4±0.1 V.
Note : When measured at the end of a vertical signal.

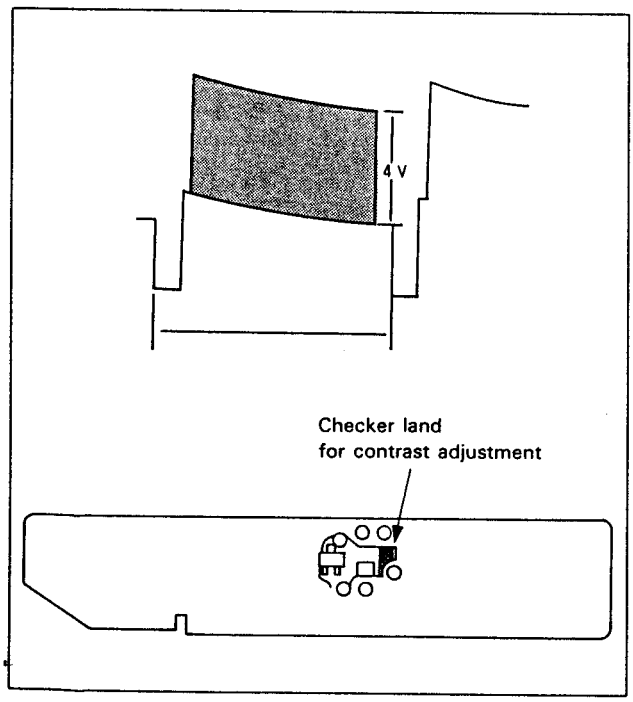


Fig. 4−5.

4−9. Brightness Adjustment

Mode : Play
Alignment tape : Performance check tape (WR5-5CSP) (Monoscope)

[Adjustment Procedure]

Adjust VR0005 for a suitable intensity.

4−10. Focus Adjustment

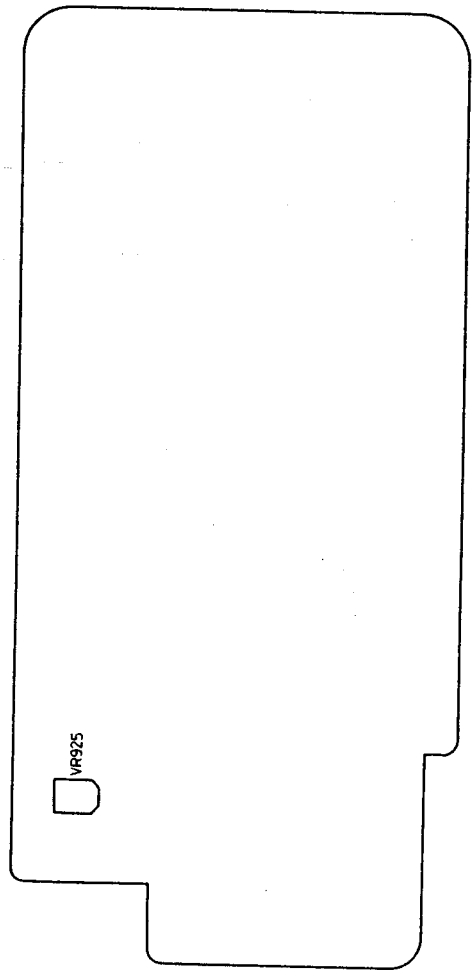
Mode : Play
Alignment tape : Performance check tape (WR5-5CSP) (Monoscope)

[Adjustment Procedure]

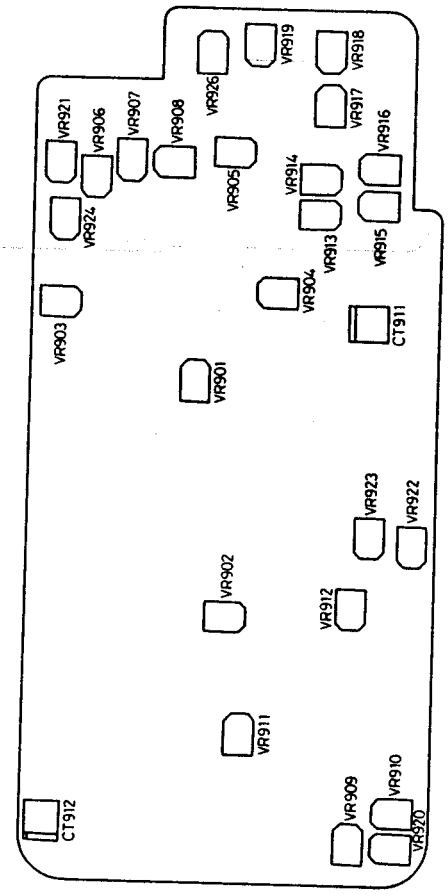
Adjust VR0004 for the highest resolution of a monoscope pattern.

5. SVR, TP location

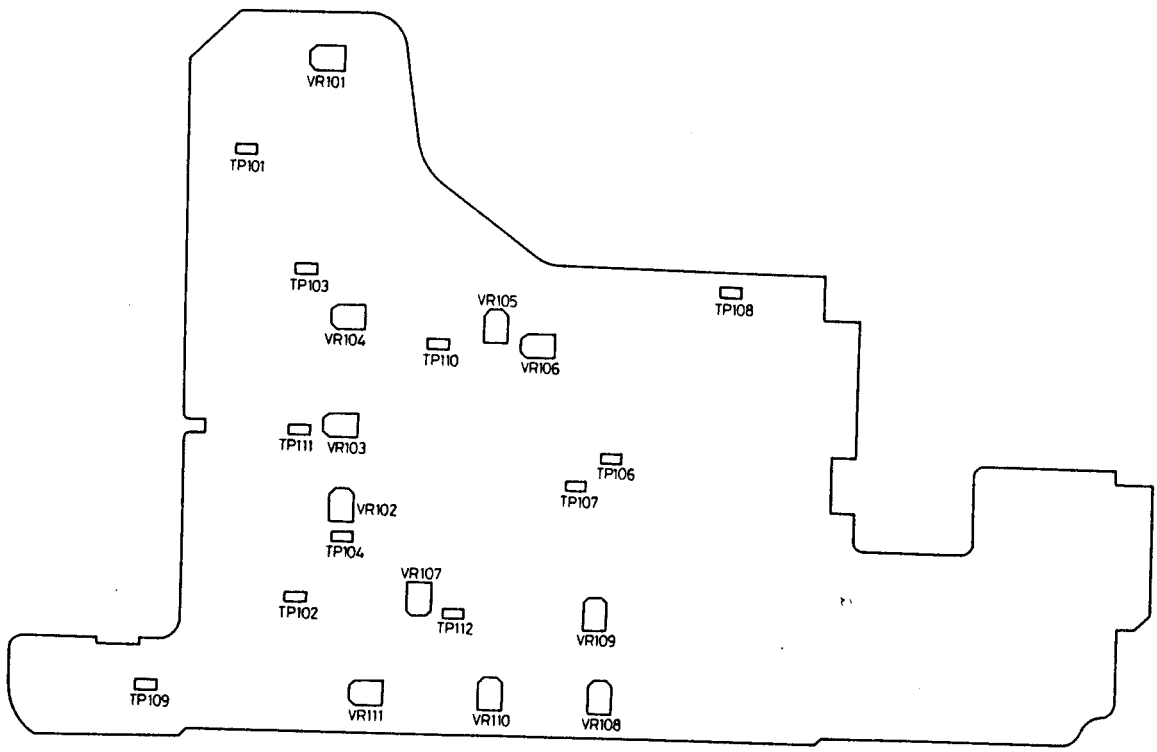
CA1 PCB (Side A)



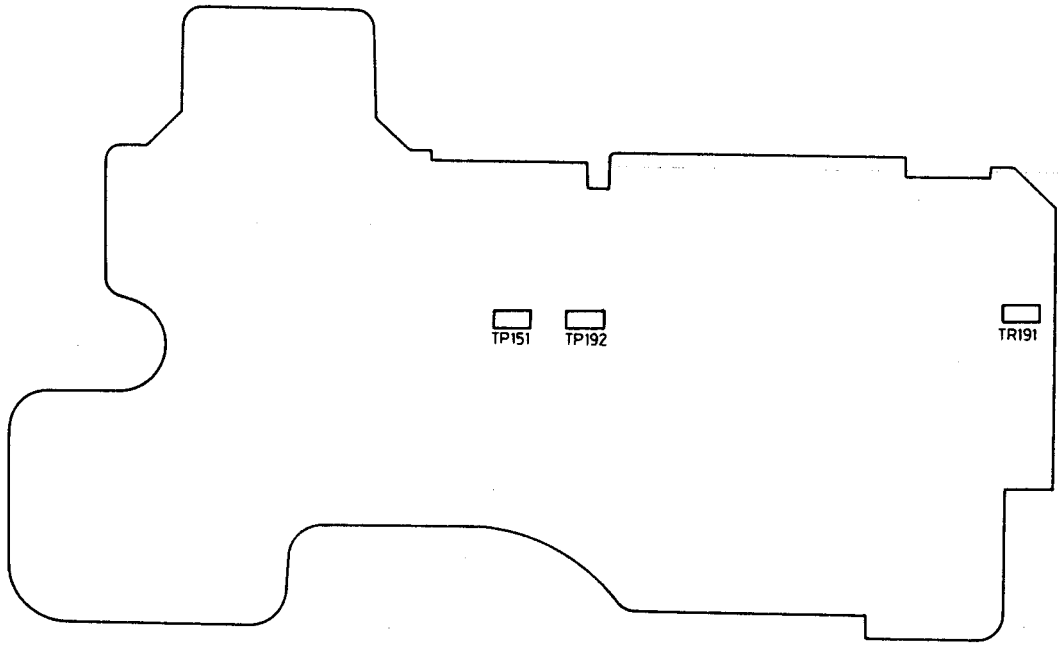
CA1 PCB (Side B)



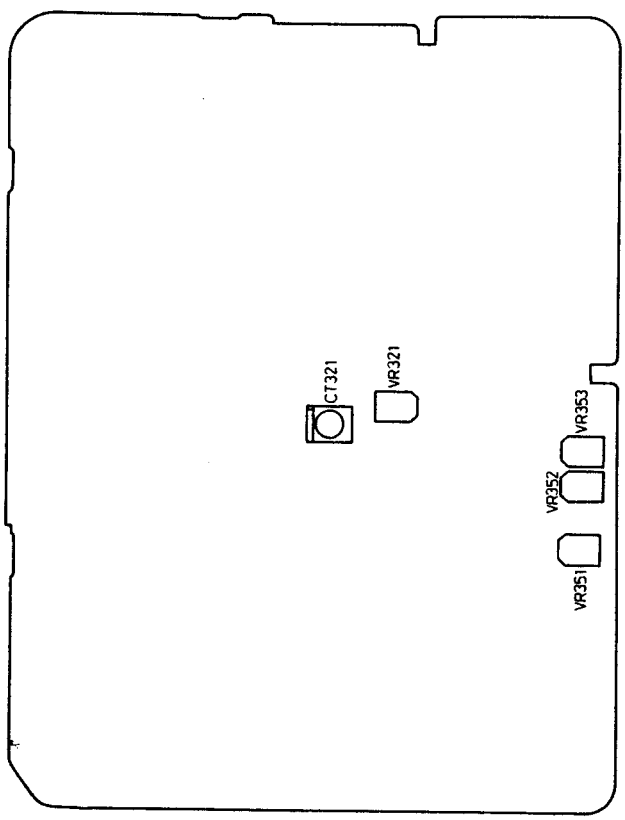
VD1 PCB (Side A)



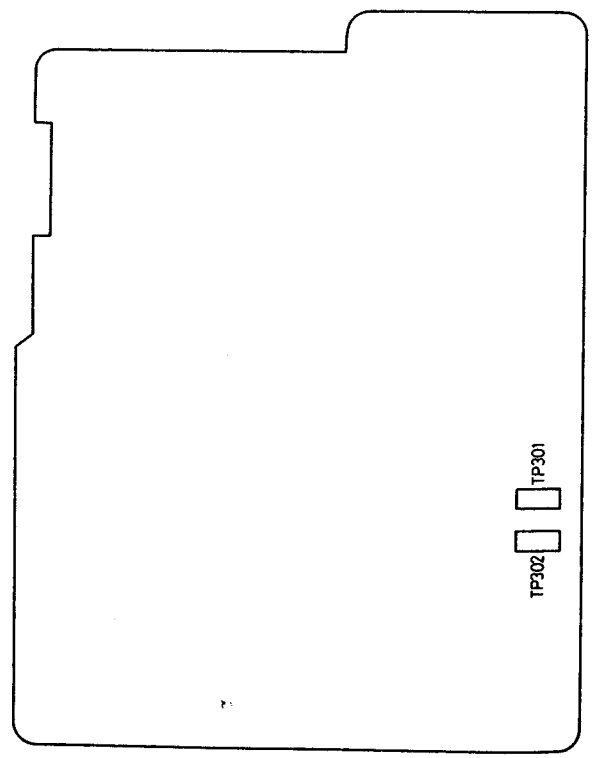
VP1 PCB (Side A)



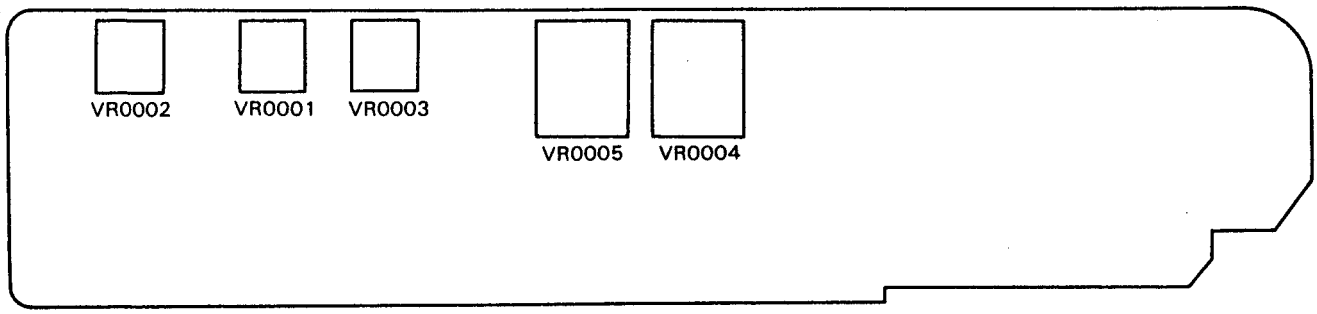
SV1 PCB (Side B)



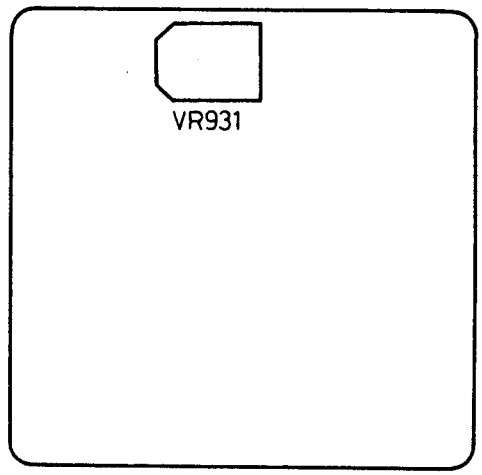
SY1 PCB (Side B)



VF1 PCB (Side A)



TC5 PCB (Side B)

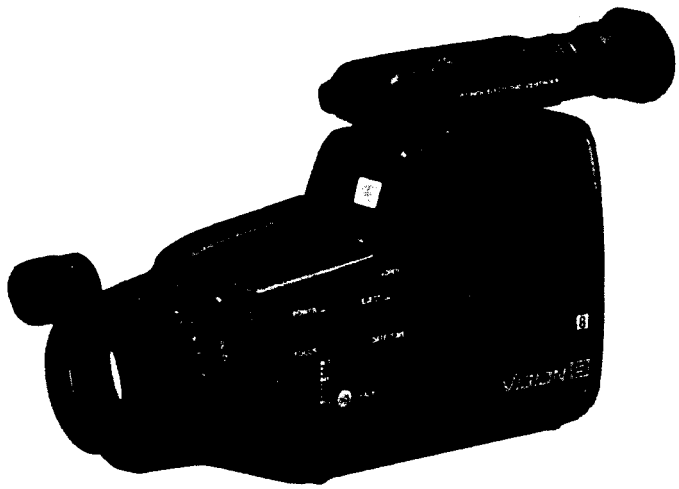


SANYO

Parts List

8mm Camcorder

VEM-S1P



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PRODUCT SAFETY NOTICE

The components designated by a symbol (⚠) in this schematic diagram designates components whose value are of special significance to product safety. Should any component designated by a symbol need to be replaced, use only the part designated in the Parts List. Do not deviate from the resistance wattage and voltage rating shown.

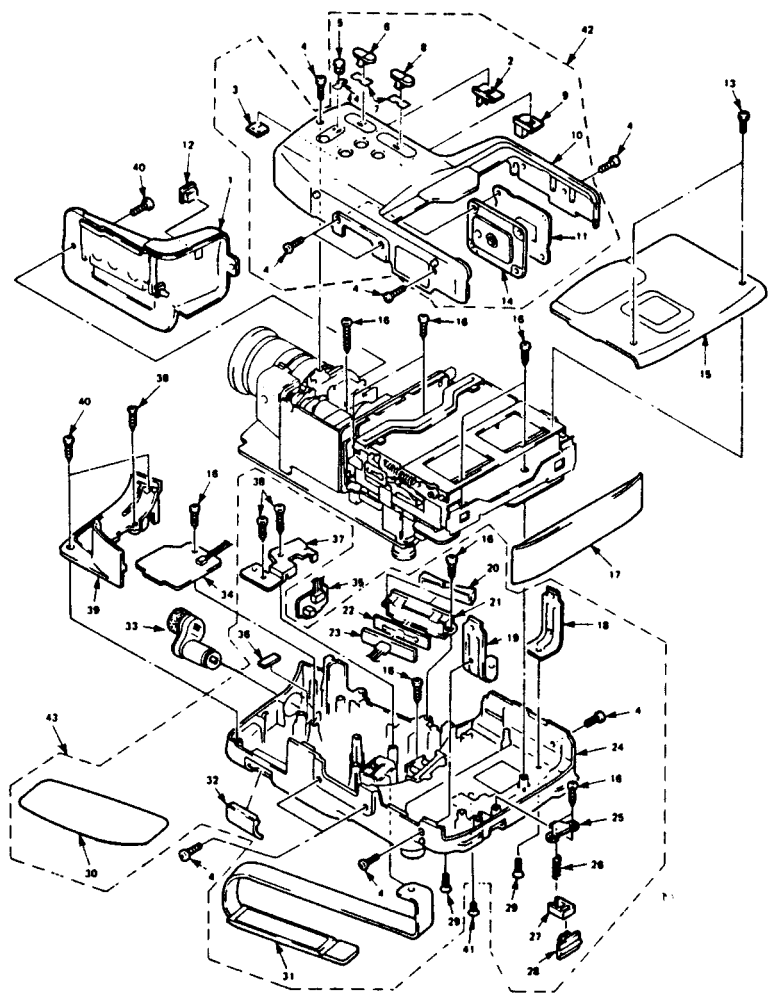
Note 1: The parts codes of accessories, cabinet and PCB differ depending on destination. Therefore the following ID codes are applied.

Germany:	G
UK:	E
Australia:	A
Spain:	SP
M-East:	ME
Switzerland:	SW

Note 2: There are two models for Spain, black cabinet model and white cabinet model. The ID codes, B and W, are used to identify the black type and white type, respectively.

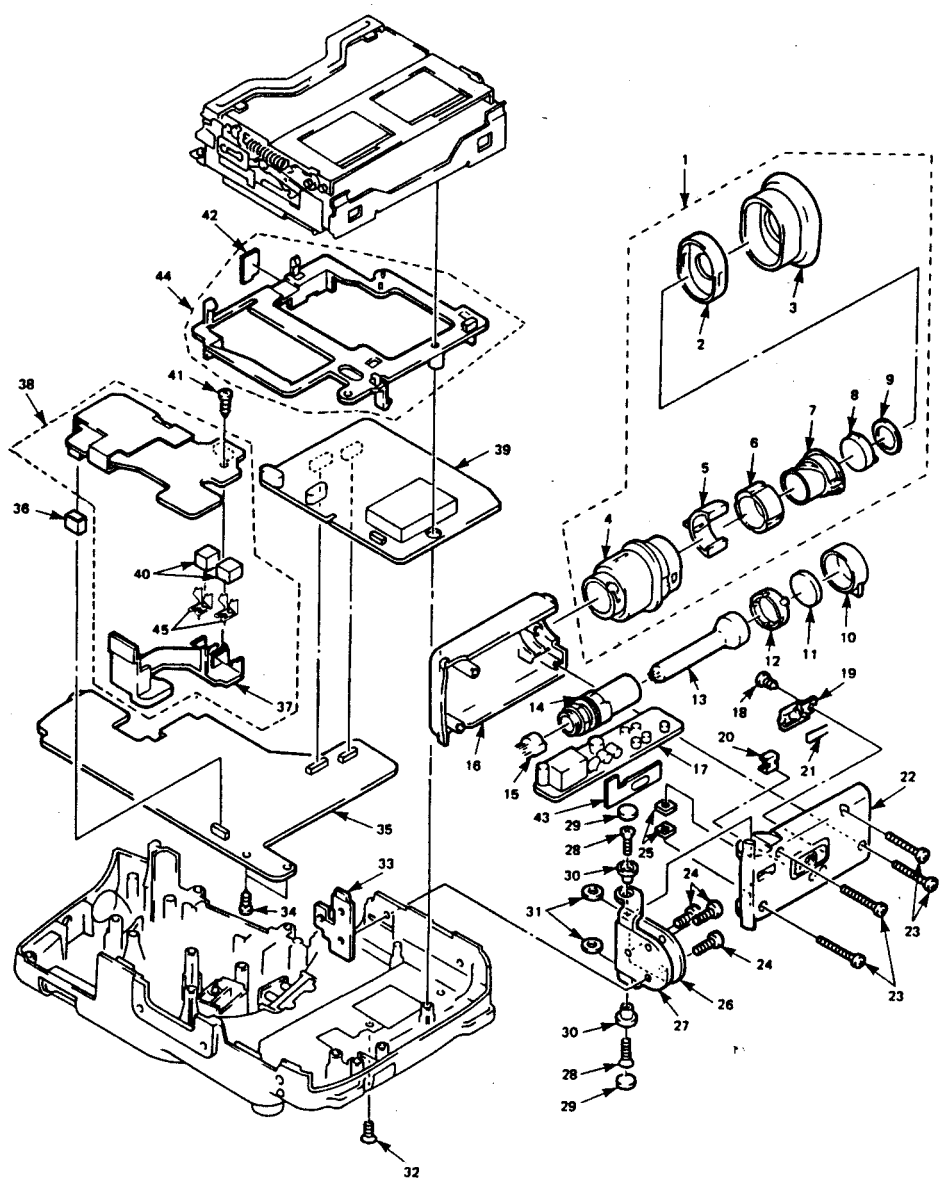
LOCATION	PARTS NO.	DESCRIPTION	LOCATION	PARTS NO.	DESCRIPTION
ACCESSORIES					
	636 025 7658	ASSY.SOFT CASE PACKING(G.E.SW)		636 025 2059	INSTRUCTION MANUAL(G.SW)
	636 024 8618	ADAPTOR.AC/DC(G.SP.ME.SW)		636 025 2066	INSTRUCTION MANUAL.ACC(G.SW)
	636 024 8625	ADAPTOR.AC/DC(E)		636 025 7955	INSTRUCTION MANUAL(E)
	636 024 8632	ADAPTOR.AC/DC(A)		636 025 7962	INSTRUCTION MANUAL.ACC(E)
	636 019 7312	RF MODULATOR ASSY(G.SP.ME.SW)		636 025 7870	INSTRUCTION MANUAL(A)
	636 012 7005	RF MODULATOR ASSY(E)		636 025 7887	INSTRUCTION MANUAL.ACC(A)
	636 020 5277	RF MODULATOR ASSY(A)		636 025 7856	INSTRUCTION MANUAL(SP)
	636 024 6300	NP55		636 025 7863	INSTRUCTION MANUAL.ACC(SP)
	636 002 7732	CORD.DC OUT		636 025 7832	INSTRUCTION MANUAL(ME)
	636 021 1919	BAND ASSY		636 025 7849	INSTRUCTION MANUAL.ACC(ME)
	636 024 7239	CABLE.RF		636 018 9980	PLUG.AC ADAPTOR(G.SP.ME.SW)
	636 026 2669	CORD.POWER			

LOCATION	PARTS NO.	DESCRIPTION
CABINET		
1	636 024 5709	ASSY,PANEL,CONTROL (G,E,A,SP:B,ME,SW)
1	636 026 8494	ASSY,PANEL,CONTROL(SP:W)
2	636 022 5008	SLIDE,POWER
3	636 022 5022	SLIDE,FOCUS
4	412 032 8402	SPECIAL SCREW
5	636 025 2547	FOCUS KNOB
6	636 022 4582	POWER KNOB
7	636 025 3698	SPACER
8	636 022 4599	EJECT KNOB
9	636 022 5015	SLIDE,EJECT
10	636 025 8884	ASSY,CABINET,LEFT(G,E,A,SP:B,ME,SW)
10	636 026 8449	ASSY,CABINET,LEFT(SP:W)
11	636 022 4674	BRACKET
12	636 022 4537	WINDOW
13	411 101 8107	SCR PAN PCS 1.7X8
14	636 024 0926	ASSY,STAND
15	636 026 8517	ASSY,LID LEFT (SP:B,A)
15	636 026 8500	ASSY,LID LEFT (SP:W)
15	636 026 0115	ASSY,LID,LEFT(G,SW,E,ME)
16	411 025 4209	SCR S-TPG BIN 2X6
17	636 024 2739	ASSY,LID,BACK(G,E,A,SP:B,ME,SW)
17	636 026 8524	ASSY,LID BACK (SP:W)
18	636 022 4650	BRACKET
19	636 022 4667	BRACKET
20	636 013 5130	PUSH BUTTON
21	636 014 0554	BRACKET SWITCH
22	636 014 1216	RUBBER CONTACT
23	636 023 6332	COMPL,TC-2
24	636 026 8463	ASSY,CABINET,RIGHT(SP:W)
24	636 025 8907	ASSY,CABINET,RIGHT (G,E,A,SP:B,ME,SW)
25	636 022 4759	HOLDER
26	636 014 6365	SPRING COIL
27	636 022 5107	CATCHER
28	636 022 4612	BATT.EJECT KNOB
29	412 022 5701	SCR FLT 2X4
30	636 022 5114	ASSY,PAD
31	636 022 5121	ASSY,BELT
32	636 022 4469	LID,LITHIUM BATT.
33	636 025 5258	ASSY,MICROPHONE
34	636 023 6042	COMPL,TB-2
35	636 023 6035	COMPL,TB-1
36	636 024 8106	SPACER
37	636 022 5534	HOLDER
38	411 025 4506	SCR S-TPG BIN 2X8
39	636 022 4421	COVER(G,E,A,SP:B,ME,SW)
39	636 026 9460	COVER(SP:W)
40	411 025 4308	SCR S-TPG BIN 2X6
41	411 126 5709	SCR S-TPG FLT 2X5
42	636 025 8877	COMPL,CABINET,LEFT (G,E,A,SP:B,ME,SW)
42	636 026 8432	COMPL,CABINET,LEFT(SP:W)
43	636 025 8891	COMPL,CABINET,RIGHT (G,E,A,SP:B,ME,SW)
43	636 026 8456	COMPL,CABINET,RIGHT(SP:W)
44	636 026 3499	SPACER



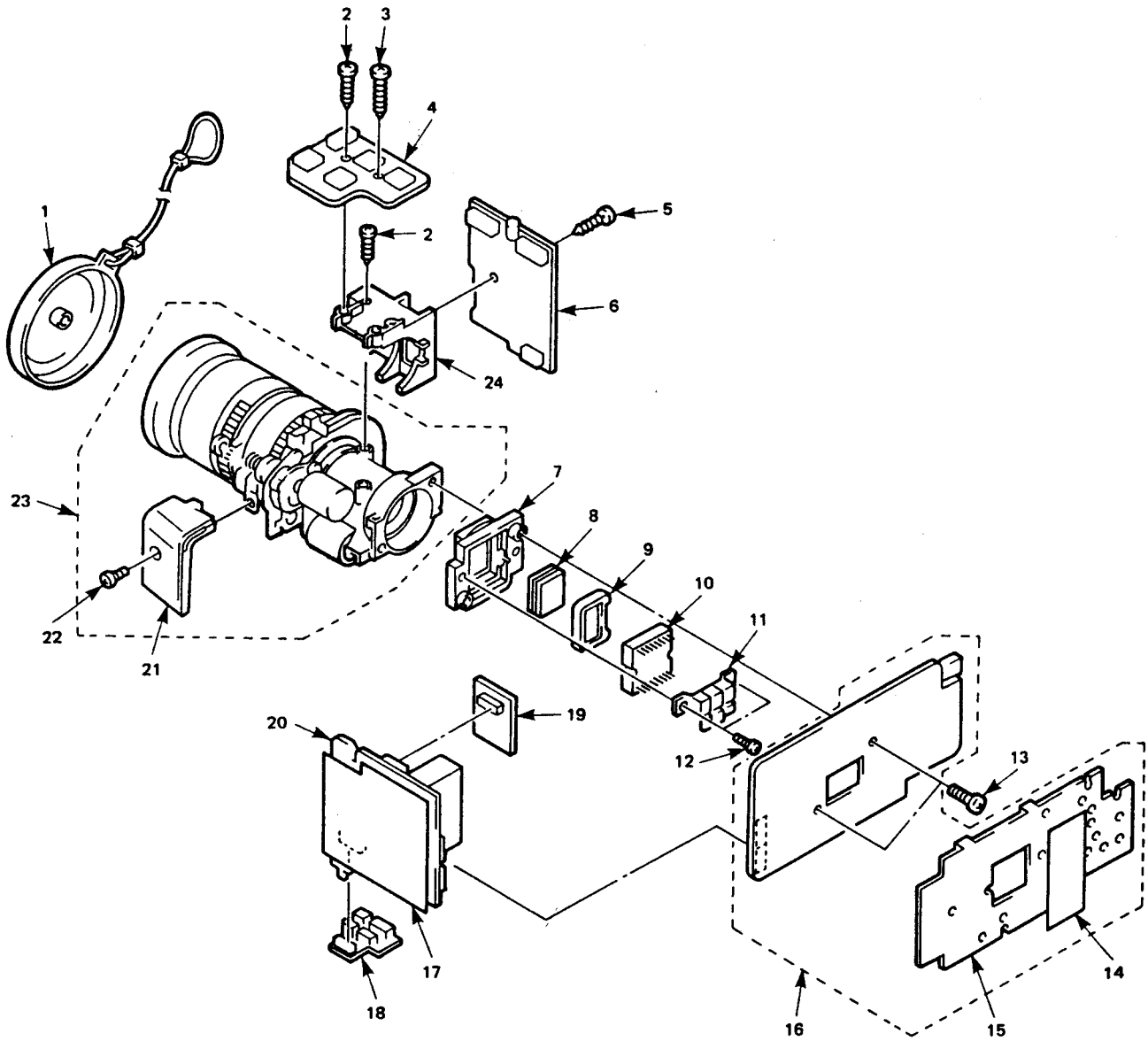
LOCATION	PARTS NO.	DESCRIPTION
PCB		
1	636 024 3200	COMPL.SLEEVE
2	636 014 2268	FIXER
3	636 013 7714	HOOD
4	636 024 2975	SLEEVE
5	636 013 5543	SLIDE KNOB
6	636 014 3777	RING
7	636 013 3204	FRAME
8	636 012 7777	LENS ASSY
9	636 013 7424	SHEET
10	636 023 1450	RING
11	636 023 1429	SPACER
12	636 023 1467	RING
13	413 006 6806	CRT C1M52P45
14	636 024 3033	YOKE,DEFLECTION
OR	636 024 3040	YOKE,DEFLECTION
15	636 024 3118	CORD
16	636 022 4384	CABINET,TOP(G,E,A,SP:B,ME,SW)
16	636 026 8562	CABINET,TOP(SP:W)
17	636 026 8036	COMPL,VF-1
18	411 022 7708	SCR S-TPG PAN 2X5
19	636 022 4766	HOLDER
20	636 023 1443	CLAMP
21	636 022 4971	SPRING

LOCATION	PARTS NO.	DESCRIPTION
22	636 022 4391	CABINET,BOTTOM(G,E,A,SP:B,ME,SW)
22	636 026 8630	CABINET,BOTTOM(SP:W)
23	411 125 5809	SCR TPG PAN PCS 1.7X8
24	412 032 8501	SPECIAL SCREW
25	636 022 5091	GUIDE
26	636 022 4957	ADHESIVE
27	636 024 3194	ASSY,BRACKET
28	412 033 8609	SPECIAL SCREW
29	636 022 4773	CAP
30	636 022 5084	BUSH
31	636 022 4933	SPACER
32	411 112 6604	SCR S-TPG FLT 2X4
33	636 022 5527	BRACKET
34	411 025 4209	SCR S-TPG BIN 2X6
35	636 025 2585	COMPL,VD-1
36	636 023 4352	PLUG,10P
37	636 022 4711	HOLDER
38	636 023 5984	COMPL,VP-1
39	636 025 1298	COMPL,SV-1
40	636 025 4848	PAD
41	411 025 9006	SCR S-TPG PAN 2X4
42	636 022 4919	INSULATOR
43	636 024 6096	EARTH
44	636 025 5227	ASSY,HOLDER
45	636 024 1817	ASSY,PLATE SPRING



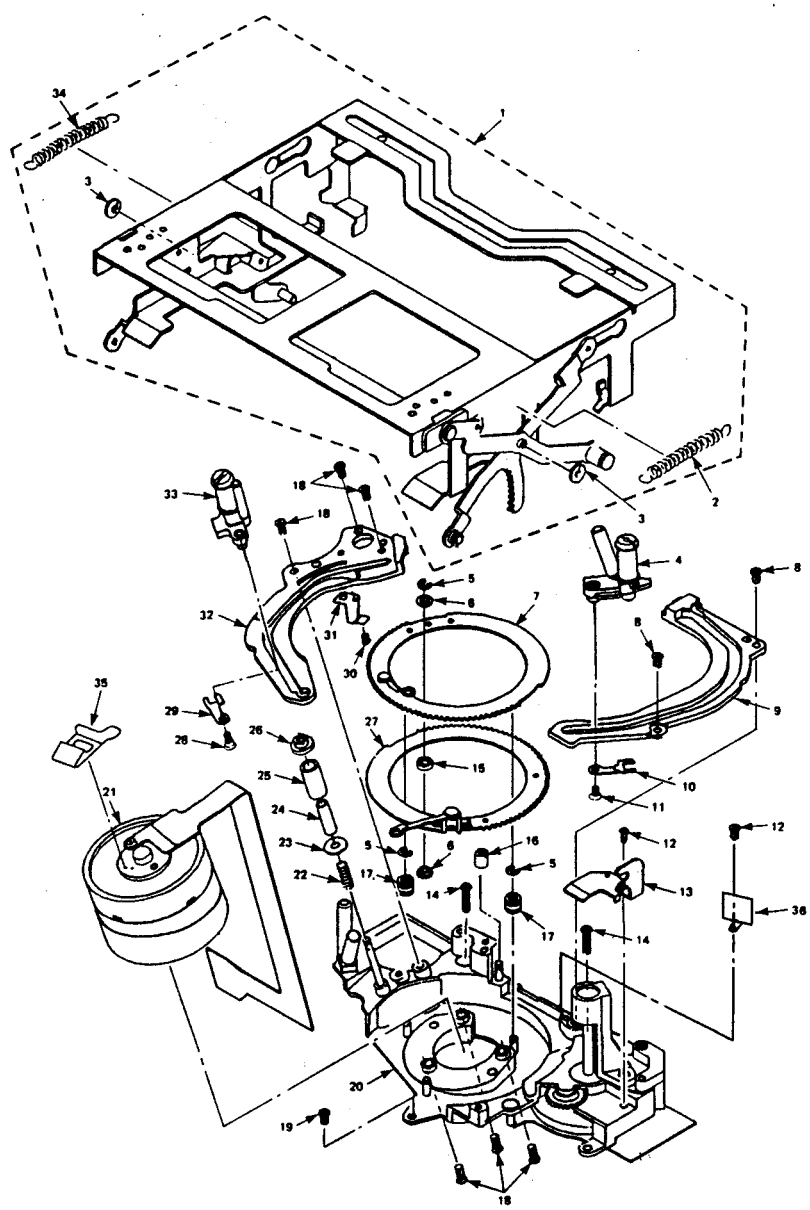
LOCATION	PARTS NO.	DESCRIPTION
CAMERA		
1	636 025 1373	CAP
2	411 025 3806	SCR S-TPG BIN 2X4
3	411 025 3707	SCR S-TPG BIN 2X12
4	636 026 7244	COMPL.TC-1
5	411 025 9204	SCR S-TPG PAN 2X6
6	636 023 5960	COMPL.SY-1
7	636 022 2762	BRACKET
8	636 023 4376	OPTICAL FILTER
OR	636 023 4383	OPTICAL FILTER
9	636 022 2779	SPACER
10	409 179 5005	IC LC9967(CCD)
11	636 022 2793	PLATE SPRING

LOCATION	PARTS NO.	DESCRIPTION
12	411 020 0800	SCR PAN PCS 1.7X4
13	411 038 8003	SCR PAN 2X14
14	636 025 0260	INSULATOR
15	636 022 4834	SHIELD
16	636 025 1571	COMPL.CA-1
17	636 022 4926	INSULATOR
18	636 023 6349	COMPL.TC-3
19	636 025 8860	COMPL.TC-4
20	636 025 1588	COMPL.CA-2
21	636 022 4438	COVER
22	411 127 6408	SCR S-TPG PAN PCS 2X4
23	636 022 3622	ASSY.LENS
24	636 022 4735	HOLDER



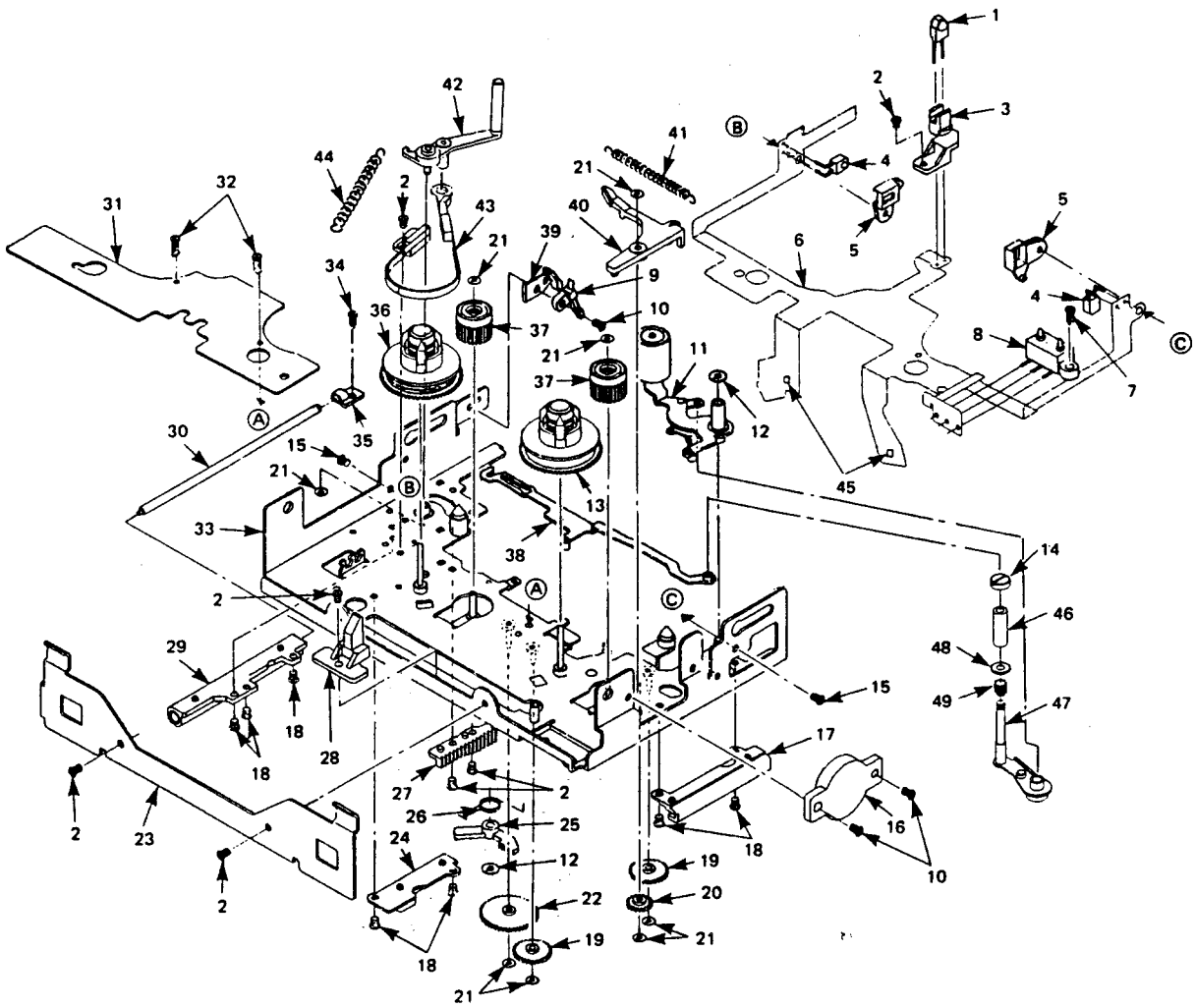
LOCATION	PARTS NO.	DESCRIPTION
MECHANISM 1		
1	636 019 5905	CASSETTE MECHANISM
2	636 019 8487	SPRING,ARM
3	412 028 3008	SPECIAL WASHER
4	636 021 2015	COMPL,GUIDE,TAKE UP
5	411 015 7104	RING E 1.2
6	636 019 6117	ROLLER
7	636 020 4829	ASSY,GEAR,SUPPLY
8	411 018 3806	SCR PAN PCS 1.7X4
9	636 019 6544	GUIDE,RAIL,TAKE UP
10	636 019 6025	PLATE,GUIDE,TAKE UP
11	411 017 1803	SCR FLT PCS 1.4X3
12	411 099 8905	SCR PAN PCS 1.7X2
13	636 025 0109	BRACKET
14	411 018 5305	SCR PAN PCS 1.7X6
15	636 019 6131	ROLLER
16	636 019 6452	SLEEVE
17	636 023 7735	ROLLER

LOCATION	PARTS NO.	DESCRIPTION
18	411 018 3806	SCR PAN PCS 1.7X4
19	411 018 1901	SCR PAN PCS 1.7X2.5
20	636 024 0131	COMPL,BASE
21	636 021 0301	CYLINDER
22	636 019 5998	SPRING
23	636 020 1170	RING
24	636 027 3832	PIPE
25	636 019 5882	ASSY,GUIDE
26	636 019 6575	GUIDE
27	636 020 4812	ASSY,GEAR,TAKE UP
28	636 026 3956	PIN
29	636 019 6032	PLATE
30	411 099 6703	SCR PAN PCS 1.4X2
31	636 019 6001	PLATE SPRING
32	636 019 6537	GUIDE,RAIL,SUPPLY
33	636 021 2008	COMPL,GUIDE,SUPPLY
34	636 022 3875	SPRING,ARM
35	636 025 8143	ASSY,GUIDE
36	636 020 0142	SENSOR,DEW



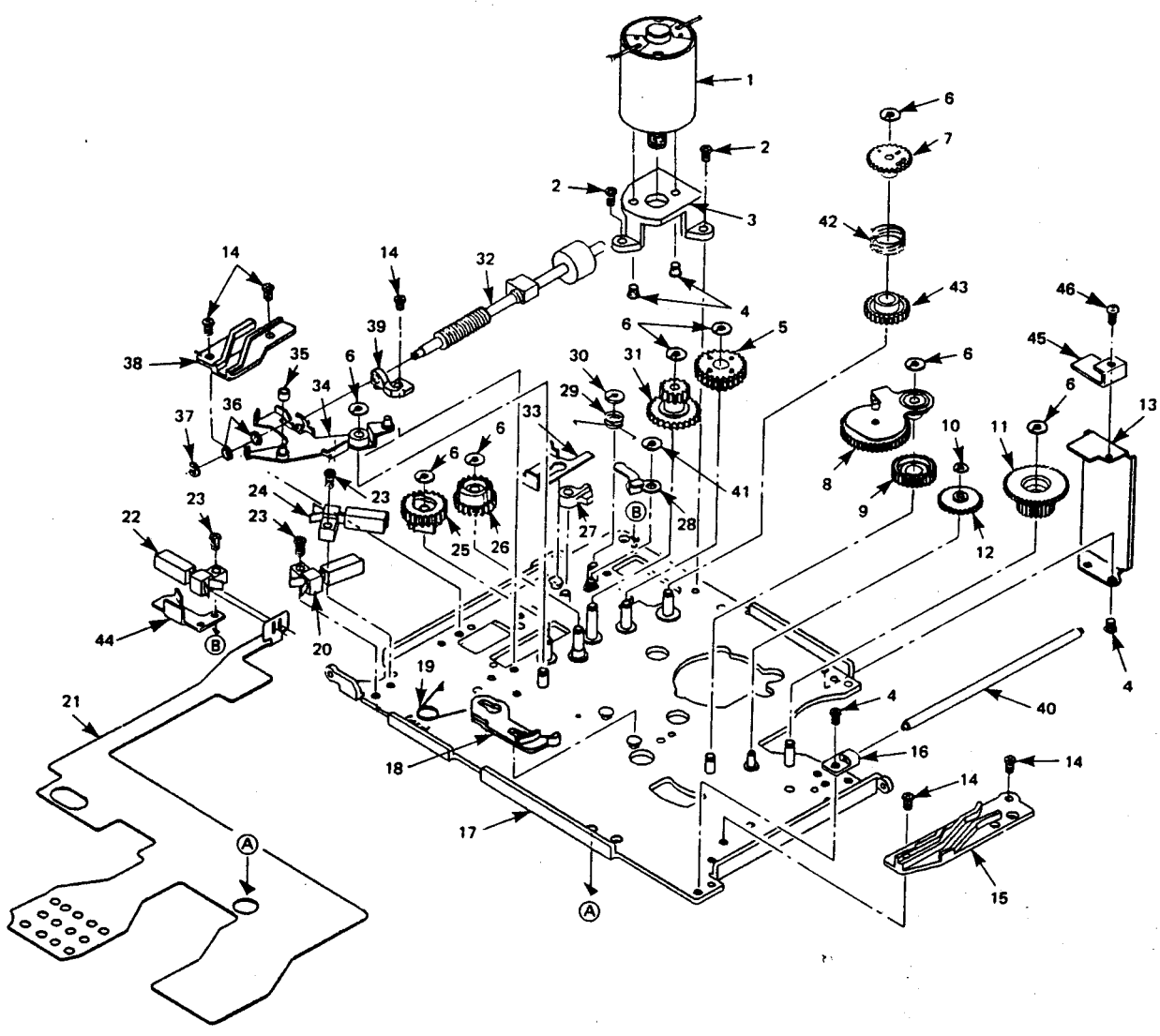
LOCATION	PARTS NO.	DESCRIPTION
MECHANISM 2		
1	407 105 3507	LED GL452
OR	407 016 0206	LED GL450S
2	411 099 8905	SCR PAN PCS 1.7X2
3	636 019 3697	BRACKET,SENSOR
4	407 101 5802	PHOTO DIODE PT480FI
5	636 019 3666	BRACKET,SENSOR
6	636 021 0950	F-PCB,REEL
7	411 018 7408	SCR PAN PCS 2X4
8	636 020 0180	SW,SPECIAL
9	636 020 0173	SW,SPECIAL
10	411 099 0701	SCR PAN PCS 1.7X3
11	636 019 5783	ASSY,LEVER
12	412 028 3008	SPECIAL WASHER
13	636 019 5813	ASSY.REEL.TAKE UP
14	636 019 6407	SLEEVE
15	411 030 2504	SCR TPG PAN PCS 1.7X4
16	636 021 2688	DAMPER
17	636 019 3758	BRACKET
18	411 018 1901	SCR PAN PCS 1.7X2.5
19	636 019 4120	GEAR
20	636 019 4168	GEAR
21	412 028 2803	SPECIAL WASHER
22	636 019 4175	GEAR
23	636 022 3417	BRACKET

LOCATION	PARTS NO.	DESCRIPTION
24	636 019 4311	CAM
25	636 019 4038	LEVER
26	636 019 3901	SPRING
27	636 019 3789	BRACKET
28	636 019 3680	BRACKET
29	636 019 5585	ASSY,BRACKET
30	636 019 4625	PIN,SLIDE JIKU(L)
31	636 024 0612	BLIND
32	411 099 6703	SCR PAN PCS 1.4X2
33	636 025 8914	ASSY,CHASSIS,REEL
34	411 019 9401	SCR PAN PCS 1.7X2.5
35	636 019 3734	BRACKET
36	636 019 5806	ASSY,REEL,SUPPLY
37	636 019 7329	ASSY,GEAR
38	636 019 5745	ASSY,LEVER
39	636 024 0902	BRAKCET,SW COVER
40	636 020 4805	ASSY,LEVER
41	636 019 3819	SPRING
42	636 019 5721	ASSY,LEVER,BT
43	636 019 5844	ASSY,BELT,BT
44	636 019 3826	SPRING
45	407 094 1409	REEL PALATE SENSOR
46	636 019 6483	GUIDE
47	636 019 5776	ASSY,LEVER
48	636 019 6339	RING
49	636 019 5974	SPRING



LOCATION	PARTS NO.	DESCRIPTION
MECHANISM 3		
1	636 027 1081	ASSY.MOTOR.LOADING
2	411 099 0701	SCR PAN PCS 1.7X3
3	636 019 3765	BRACKET
4	411 099 8905	SCR PAN PCS 1.7X2
5	636 021 1995	ASSY.GEAR.LOADING
6	412 028 3008	SPECIAL WASHER
7	636 019 4243	GEAR.LOADING
8	636 019 5790	ASSY.GEAR.IDLER
9	636 019 4137	GEAR
10	412 028 2803	SPECIAL WASHER
11	636 019 4113	GEAR
12	636 019 4120	GEAR
13	636 020 1231	BRACKET
14	411 018 1901	SCR PAN PCS 1.7X2.5
15	636 019 6100	CAM
16	636 019 3734	BRACKET
17	636 025 9836	ASSY.CHASSIS.MAIN
18	636 020 1279	SLIDE
19	636 020 1262	SPRING
20	636 020 0166	SW.SPECIAL
21	636 021 0967	F-PCB.MAIN
22	636 020 0159	SW.SPECIAL

LOCATION	PARTS NO.	DESCRIPTION
23	411 018 4100	SCR PAN PCS 1.7X4.5
24	636 025 1229	SW.SPECIAL
25	636 019 4229	GEAR.LOADING
26	636 021 1988	ASSY.GEAR
27	636 019 3956	LEVER
28	636 019 4014	LEVER
29	636 026 3642	SPRING
30	412 030 0804	SPECIAL WASHER
31	636 019 4236	GEAR.LOADING
32	636 019 5868	ASSY.ROD
33	636 019 4083	LINK
34	636 019 5738	ASSY.LEVER
35	636 019 4922	SLEEVE
36	636 019 4854	RING
37	411 015 7104	RING E 1.2
38	636 019 3727	BRACKET
39	636 019 3772	BRACKET
40	636 019 4632	PIN.SLIDE JIKU(R)
41	412 032 9003	SPECIAL WASHER
42	636 019 3833	SPRING
43	636 019 4250	GEAR.LOADING
44	636 026 2652	BRACKET
45	636 026 2645	BRACKET
46	411 099 6703	SCR PAN PCS 1.4X2



ELECTRICAL PARTS

NOTE;

*Materials of Capacitors and Resistors are abbreviated as follows;

Resistors

MT-FILE	Metal Film Resistor
MT-GLAZE	Metal Glaze Resistor
OXIDE-MT	Oxide Netal Film Resistor

Capacitors

MT-POLYEST	Metallized Polyester Capacitor
MT-COMPO	Metallized Composite Capacitor
TA-SOLID	Tantalum Solid Capacitor
AL-SOLID	Aluminum Solid Capacitor
NP-ELECT	Non-Polarized Electrolytic Capacitor
OS-SOLID	Aluminum Solid Capacitors with Organic Semiconductive Electrolytic Capacitor
DL-ELECT	Double Layered Electrolytic Capacitor

*Tolerance of Capacitor(10pF over) and Resistor are noted with follow symboles.

F .....±1% G .....±2% J .....±5% K .....±10%
M .....±20% N .....±30% Z .....+80% ~ −20% D.....±0.5%

LOCATION	PARTS NO.	DESCRIPTION		
COMPL.VD-1				
COMPL.NO.	636 025 2585			
	636 026 0726	SPACER		
	636 026 0146	SHIELD.SIDE A		
	636 021 0332	SHIELD.SIDE B		
B1001 ⚠	636 023 4673	UNIT.DC-DC CONVERTOR		
C1001	403 114 5600	TA-SOLID	3.3U M	6.3V
C1003	403 149 7303	CERAMIC	0.47U Z	16V
C1005	403 105 9105	ELECT	10U M	16V
OR	403 162 4709	ELECT	10U M	16V
C1006	403 155 1807	CERAMIC	0.01U K	25V
C1007	403 119 6909	ELECT	22U M	6.3V
OR	403 162 4006	ELECT	22U M	6.3V
C1010	403 089 4806	TA-SOLID	10U M	4V
C1011	403 155 1807	CERAMIC	0.01U K	25V
C1012	403 149 7303	CERAMIC	0.47U Z	16V
C1014	403 158 7608	TA-SOLID	4.7U M	6.3V
C1015	403 148 2705	ELECT	220U M	4V
C1016	403 155 1807	CERAMIC	0.01U K	25V
C1017	403 119 6909	ELECT	22U M	6.3V
OR	403 162 4006	ELECT	22U M	6.3V
C1019	403 114 5402	TA-SOLID	2.2U M	10V
C1020	403 134 7400	CERAMIC	1U Z	16V
C1023	403 090 2006	TA-SOLID	6.8U M	6.3V
C1024	403 155 1807	CERAMIC	0.01U K	25V
C1025	403 149 7303	CERAMIC	0.47U Z	16V
C1026	403 114 5600	TA-SOLID	3.3U M	6.3V
C1027	403 155 1807	CERAMIC	0.01U K	25V
C1028	403 134 7400	CERAMIC	1U Z	16V
C1029	403 155 1807	CERAMIC	0.01U K	25V
C1030	403 119 6909	ELECT	22U M	6.3V
C1033	403 157 8309	CERAMIC	0.1U Z	16V
C1036	403 155 1807	CERAMIC	0.01U K	25V
C1037	403 134 7400	CERAMIC	1U Z	16V
C1038	403 119 6909	ELECT	22U M	6.3V
OR	403 162 4006	ELECT	22U M	6.3V
C1039	403 157 8309	CERAMIC	0.1U Z	16V
C1040	403 134 7400	CERAMIC	1U Z	16V
C1041	403 114 5600	TA-SOLID	3.3U M	6.3V
C1042	403 119 6909	ELECT	22U M	6.3V
OR	403 162 4006	ELECT	22U M	6.3V
C1043	403 157 8309	CERAMIC	0.1U Z	16V
C1044	403 134 7400	CERAMIC	1U Z	16V
C1045	403 089 4806	TA-SOLID	10U M	4V
C1046	403 119 6909	ELECT	22U M	6.3V
OR	403 162 4006	ELECT	22U M	6.3V
C1047	403 155 1807	CERAMIC	0.01U K	25V
C1048	403 105 9105	ELECT	10U M	16V
OR	403 162 4709	ELECT	10U M	16V
C1049	403 155 1807	CERAMIC	0.01U K	25V
C1050	403 134 7400	CERAMIC	1U Z	16V
C1051	403 134 7400	CERAMIC	1U Z	16V
C1052	403 114 5600	TA-SOLID	3.3U M	6.3V
C1053	403 114 5600	TA-SOLID	3.3U M	6.3V
C1054	403 105 9105	ELECT	10U M	16V
OR	403 162 4709	ELECT	10U M	16V
C1056	403 155 1807	CERAMIC	0.01U K	25V
C1057	403 113 3805	CERAMIC	1000P K	50V
C1058	403 134 7400	CERAMIC	1U Z	16V
C1060	403 134 7400	CERAMIC	1U Z	16V
C1061	403 105 9105	ELECT	10U M	16V
OR	403 162 4709	ELECT	10U M	16V
C1063	403 134 7400	CERAMIC	1U Z	16V
C1064	403 026 7501	CERAMIC	470P J	50V
C1065	403 024 7107	CERAMIC	390P J	50V
C1066	403 105 9105	ELECT	10U M	16V
OR	403 162 4709	ELECT	10U M	16V
C1069	403 134 7400	CERAMIC	1U Z	16V
C1070	403 155 1807	CERAMIC	0.01U K	25V
C1071	403 155 1807	CERAMIC	0.01U K	25V
C1072	403 139 7108	CERAMIC	12P J	50V
C1073	403 157 3601	CERAMIC	100P J	50V
C1074	403 157 2901	CERAMIC	47P J	50V
C1075	403 134 7400	CERAMIC	1U Z	16V
C1077	403 134 7400	CERAMIC	1U Z	16V
C1078	403 149 7303	CERAMIC	0.47U Z	16V
C1079	403 157 4202	CERAMIC	220P J	50V
C1080	403 157 3601	CERAMIC	100P J	50V
C1081	403 157 3304	CERAMIC	68P J	50V
C1082	403 157 2901	CERAMIC	47P J	50V
C1084	403 155 1807	CERAMIC	0.01U K	25V
C1085	403 113 4109	CERAMIC	2200P K	50V
C1086	403 155 1609	CERAMIC	33P J	50V
C1087	403 155 1807	CERAMIC	0.01U K	25V
C1088	403 114 5600	TA-SOLID	3.3U M	6.3V
C1089	403 155 1807	CERAMIC	0.01U K	25V
C1090	403 157 2802	CERAMIC	43P J	50V
C1091	403 155 4204	CERAMIC	15P J	50V
C1094	403 157 3403	CERAMIC	75P J	50V
C1095	403 155 1500	CERAMIC	180P J	50V
C1096	403 155 1807	CERAMIC	0.01U K	25V
C1098	403 157 3403	CERAMIC	75P J	50V
C1099	403 155 1609	CERAMIC	33P J	50V
C1100	403 157 8309	CERAMIC	0.1U Z	16V
C1101	403 020 5503	CERAMIC	270P J	50V
C1102	403 155 1807	CERAMIC	0.01U K	25V
C1103	403 157 7906	CERAMIC	0.047U Z	16V

LOCATION	PARTS NO.	DESCRIPTION		
C1104	403 157 8309	CERAMIC	0.1U Z	16V
C1105	403 157 1904	CERAMIC	10P D	50V
C1106	403 155 1807	CERAMIC	0.01U K	25V
C1107	403 155 1807	CERAMIC	0.01U K	25V
C1110	403 155 1807	CERAMIC	0.01U K	25V
C1111	403 114 5600	TA-SOLID	3.3U M	6.3V
C1112	403 155 1807	CERAMIC	0.01U K	25V
C1113	403 139 3605	ELECT	100U M	6.3V
C1114	403 155 1807	CERAMIC	0.01U K	25V
C1115	403 155 1807	CERAMIC	0.01U K	25V
C1116	403 155 1807	CERAMIC	0.01U K	25V
C1117	403 157 2901	CERAMIC	47P J	50V
C1118	403 153 9300	CERAMIC	82P J	50V
C1119	403 157 8309	CERAMIC	0.1U Z	16V
C1120	403 155 2309	CERAMIC	4700P K	50V
C1121	403 155 1807	CERAMIC	0.01U K	25V
C1122	403 155 1807	CERAMIC	0.01U K	25V
C1123	403 155 1807	CERAMIC	0.01U K	25V
C1124	403 155 1807	CERAMIC	0.01U K	25V
C1125	403 155 1807	CERAMIC	0.01U K	25V
C1126	403 155 1807	CERAMIC	0.01U K	25V
C1127	403 114 5600	TA-SOLID	3.3U M	6.3V
C1128	403 155 1807	CERAMIC	0.01U K	25V
C1129	403 155 1807	CERAMIC	0.01U K	25V
C1130	403 155 1807	CERAMIC	0.01U K	25V
C1131	403 155 1807	CERAMIC	0.01U K	25V
C1132	403 157 8309	CERAMIC	0.1U Z	16V
C1133	403 157 2901	CERAMIC	47P J	50V
C1135	403 113 4109	CERAMIC	2200P K	50V
C1201	403 153 9300	CERAMIC	82P J	50V
C1203	403 139 7306	CERAMIC	18P J	50V
C1204	403 157 2505	CERAMIC	27P J	50V
C1205	403 153 9300	CERAMIC	82P J	50V
C1206	403 139 7504	CERAMIC	39P J	50V
C1207	403 145 9905	CERAMIC	22P J	50V
C1208	403 020 5503	CERAMIC	270P J	50V
C1401	403 134 7400	CERAMIC	1U Z	16V
C1402	403 134 7400	CERAMIC	1U Z	16V
C1403	403 134 7400	CERAMIC	1U Z	16V
C1404	403 134 7400	CERAMIC	1U Z	16V
C1405	403 155 1807	CERAMIC	0.01U K	25V
C1406	403 134 7400	CERAMIC	1U Z	16V
C1407	403 114 5600	TA-SOLID	3.3U M	6.3V
C1408	403 134 7400	CERAMIC	1U Z	16V
C1410	403 155 1807	CERAMIC	0.01U K	25V
C1411	403 153 9300	CERAMIC	82P J	50V
C1414	403 155 1807	CERAMIC	0.01U K	25V
C1415	403 157 2505	CERAMIC	27P J	50V
C1416	403 024 7107	CERAMIC	390P J	50V
C1417	403 157 2505	CERAMIC	27P J	50V
C1418	403 069 1702	CERAMIC	1000P K	50V
C1419	403 155 1807	CERAMIC	0.01U K	25V
C1420	403 105 9105	ELECT	10U M	16V
C1421	403 157 3601	CERAMIC	100P J	50V
C1422	403 157 2505	CERAMIC	27P J	50V
C1423	403 145 9905	CERAMIC	22P J	50V
C1424	403 157 3601	CERAMIC	100P J	50V
C1425	403 023 4404	CERAMIC	330P J	50V
C1426	403 033 9000	CERAMIC	820P J	50V
C1427	403 158 7608	TA-SOLID	4.7U M	6.3V
C1428	403 069 1702	CERAMIC	1000P K	50V
C1429	403 011 4904	CERAMIC	120P J	50V
C1430	403 155 1807	CERAMIC	0.01U K	25V
C1431	403 158 7608	TA-SOLID	4.7U M	6.3V
C1432	403 157 8309	CERAMIC	0.1U Z	16V
C1601	403 026 7501	CERAMIC	470P J	50V
C1602	403 155 1807	CERAMIC	0.01U K	25V
C2001	403 114 4207	ELECT	47U M	4V
OR	403 162 3900	ELECT	47U M	4V

LOCATION	PARTS NO.	DESCRIPTION		
C2002	403 114 4207	ELECT	47U M	4V
OR	403 162 3900	ELECT	47U M	4V
C2003	403 091 0407	TA-SOLID	1U M	16V
C2005	403 114 5600	TA-SOLID	3.3U M	6.3V
C2006	403 114 4108	ELECT	33U M	4V
OR	403 162 3801	ELECT	33U M	4V
C2007	403 091 0407	TA-SOLID	1U M	16V
C2008	403 067 9809	CERAMIC	0.1U K	25V
C2010	403 139 3605	ELECT	100U M	6.3V
C2011	403 067 9809	CERAMIC	0.1U K	25V
C2012	403 113 3805	CERAMIC	1000P K	50V
C2901	403 117 4501	CERAMIC	0.039U K	25V
C2902	403 155 1807	CERAMIC	0.01U K	25V
C2903	403 092 6606	TA-SOLID	0.22U M	35V
C2904	403 139 3605	ELECT	100U M	6.3V
C2905	403 114 4207	ELECT	47U M	4V
OR	403 162 3900	ELECT	47U M	4V
C2906	403 157 3106	CERAMIC	56P J	50V
C2907	403 155 1500	CERAMIC	180P J	50V
C2908	403 114 5600	TA-SOLID	3.3U M	6.3V
C2909	403 026 7501	CERAMIC	470P J	50V
C2910	403 026 7501	CERAMIC	470P J	50V
C2911	403 033 9000	CERAMIC	820P J	50V
C2912	403 155 1500	CERAMIC	180P J	50V
CN213	636 001 6910	SOCKET,MIC		
CN851	636 001 9232	SOCKET,AV OUT		
D1001	407 004 8009	DIODE DSB015		
D1002	407 004 8009	DIODE DSB015		
D1003	407 004 8009	DIODE DSB015		
D1004	407 004 1000	DIODE DCC010		
D1401	407 004 0706	DIODE DCB015		
D1402	407 004 8009	DIODE DSB015		
D1601	407 057 8902	ZENER DIODE RD8.2MB2		
D1602	407 057 8902	ZENER DIODE RD8.2MB2		
D1603	407 057 8902	ZENER DIODE RD8.2MB2		
D1604	407 057 8902	ZENER DIODE RD8.2MB2		
D1607	407 054 5508	ZENER DIODE RD13MB1		
D1608	407 114 4601	LED SLZ-881C-21		
D2001	407 004 1000	DIODE DCC010		
D2002	407 004 0201	DIODE DCA015		
D2901	407 057 8902	ZENER DIODE RD8.2MB2		
D2902	407 057 8902	ZENER DIODE RD8.2MB2		
F1601 ⚠	636 000 0353	CIRCUIT PROTECTOR		
IC101	409 175 9908	IC CXA1201Q-T1-Z		
IC102	409 051 2900	IC TC4053BF(TP1)		
IC103	409 169 5701	IC CXA1200BQ		
IC141	409 143 8100	IC CXL1502M-T1		
IC142	409 176 0003	IC CXA1203N-T3		
IC201	409 156 4700	IC JU0353		
L1001	636 002 8852	RF CHOKE,100UH		
L1002	636 002 8852	RF CHOKE,100UH		
L1004	636 002 8852	RF CHOKE,100UH		
L1005	636 019 8746	COIL,INDUCTOR 47UH		
L1009	636 002 8852	RF CHOKE,100UH		
L1011	636 003 2422	HF CHOKE,15UH		
L1012	636 003 3184	HF CHOKE,330UH		
L1014	636 019 8746	COIL,INDUCTOR 47UH		
L1015	636 003 2514	HF CHOKE,82UH		
L1016	636 003 2484	HF CHOKE,47UH		
L1017	636 002 8852	RF CHOKE,100UH		
L1018	636 003 3207	HF CHOKE,470UH		
L1019	636 003 3184	HF CHOKE,330UH		
L1020	636 002 8852	RF CHOKE,100UH		
L1021	636 003 2392	HF CHOKE,8.2UH		

LOCATION	PARTS NO.	DESCRIPTION
L1022	636 003 2231	HF CHOKE,120UH
L1023	636 003 3184	HF CHOKE,330UH
L1024	636 002 8852	RF CHOKE,100UH
L1025	636 003 2361	HF CHOKE,4.7UH
L1026	636 003 3184	HF CHOKE,330UH
L1028	636 003 2255	HF CHOKE,180UH
L1029	636 003 2224	HF CHOKE,100UH
L1030	636 003 2101	HF CHOKE,10UH
L1031	636 003 2248	HF CHOKE,150UH
L1032	636 003 2224	HF CHOKE,100UH
L1033	636 002 8852	RF CHOKE,100UH
L1034	636 003 5379	CORE
L1035	636 003 5379	CORE
L1036	636 003 2484	HF CHOKE,47UH
L1040	636 003 5379	CORE
L1201	636 003 2460	HF CHOKE,33UH
L1401	636 002 8852	RF CHOKE,100UH
L1402	636 003 2491	HF CHOKE,56UH
L1403	636 003 2415	HF CHOKE,12UH
L1404	636 003 2491	HF CHOKE,56UH
Q1004	405 077 2207	TR 2SA1622-6-TL
Q1005	405 077 3402	TR 2SC4211-6-TL
Q1006	405 008 7707	TR 2SB815-B7
Q1007	405 078 6709	TR 2SC4396-TL
Q1008	405 008 7707	TR 2SB815-B7
Q1009	405 078 6709	TR 2SC4396-TL
Q1010	405 078 6709	TR 2SC4396-TL
Q1011	405 077 2207	TR 2SA1622-6-TL
Q1012	405 079 2809	TR IMX1-T109
Q1013	405 079 2809	TR IMX1-T109
Q1015	405 078 5801	TR 2SA1676-TL
Q1016	405 077 3402	TR 2SC4211-6-TL
Q1018	405 079 2809	TR IMX1-T109
Q1019	405 078 6709	TR 2SC4396-TL
Q1020	405 077 3402	TR 2SC4211-6-TL
Q1021	405 077 2207	TR 2SA1622-6-TL
Q1022	405 077 3402	TR 2SC4211-6-TL
Q1023	405 077 2207	TR 2SA1622-6-TL
Q1024	405 077 3402	TR 2SC4211-6-TL
Q1025	405 077 3402	TR 2SC4211-6-TL
Q1026	405 077 3402	TR 2SC4211-6-TL
Q1028	405 077 2207	TR 2SA1622-6-TL
Q1029	405 077 3402	TR 2SC4211-6-TL
Q1030	405 077 3402	TR 2SC4211-6-TL
Q1031	405 077 3402	TR 2SC4211-6-TL
Q1032	405 077 3402	TR 2SC4211-6-TL
Q1034	405 079 2809	TR IMX1-T109
Q1035	405 077 3402	TR 2SC4211-6-TL
Q1036	405 079 2809	TR IMX1-T109
Q1037	405 077 3402	TR 2SC4211-6-TL
Q1038	405 078 5801	TR 2SA1676-TL
Q1039	405 078 5801	TR 2SA1676-TL
Q1040	405 077 3402	TR 2SC4211-6-TL
Q1041	405 060 7509	TR FMG2-T99
Q1042	405 008 7707	TR 2SB815-B7
Q1043	405 078 6709	TR 2SC4396-TL
Q1044	405 077 3402	TR 2SC4211-6-TL
Q1045	405 077 3402	TR 2SC4211-6-TL
Q1201	405 078 5801	TR 2SA1676-TL
Q1404	405 077 3402	TR 2SC4211-6-TL
Q1405	405 077 3402	TR 2SC4211-6-TL
Q1406	405 077 3402	TR 2SC4211-6-TL
Q1407	405 077 2207	TR 2SA1622-6-TL
Q1408	405 078 5801	TR 2SA1676-TL
Q1409	405 078 6709	TR 2SC4396-TL
Q1410	405 077 3402	TR 2SC4211-6-TL
Q1411	405 078 6709	TR 2SC4396-TL
Q1412	405 078 6709	TR 2SC4396-TL

LOCATION	PARTS NO.	DESCRIPTION
Q1601	405 008 7707	TR 2SB815-B7
Q1603	405 078 6709	TR 2SC4396-TL
Q1604	405 078 4300	TR 2SC4398-TL
Q2001	405 077 3402	TR 2SC4211-6-TL
Q2002	405 077 3402	TR 2SC4211-6-TL
Q2003	405 077 3402	TR 2SC4211-6-TL
Q2004	405 077 2207	TR 2SA1622-6-TL
Q2901	405 079 2809	TR IMX1-T109
Q2902	405 077 3402	TR 2SC4211-6-TL
R1002	401 105 0504	MT-GLAZE 1K JA 1/16W
R1004	401 105 3307	MT-GLAZE 2.7K JA 1/16W
R1005	401 105 4106	MT-GLAZE 3.3K JA 1/16W
R1006	401 105 2102	MT-GLAZE 18K JA 1/16W
R1007	401 105 5301	MT-GLAZE 4.7K JA 1/16W
R1008	401 105 3406	MT-GLAZE 27K JA 1/16W
R1009	401 105 2904	MT-GLAZE 22K JA 1/16W
R1010	401 105 2904	MT-GLAZE 22K JA 1/16W
R1011	401 105 3406	MT-GLAZE 27K JA 1/16W
R1012	401 105 0702	MT-GLAZE 100K JA 1/16W
R1013	401 105 1006	MT-GLAZE 1.2K JA 1/16W
R1014	401 105 7404	MT-GLAZE 8.2K JA 1/16W
R1015	401 105 0504	MT-GLAZE 1K JA 1/16W
R1016	401 105 7305	MT-GLAZE 820 JA 1/16W
R1017	401 105 6407	MT-GLAZE 68 JA 1/16W
R1018	401 105 7305	MT-GLAZE 820 JA 1/16W
R1019	401 105 6506	MT-GLAZE 680 JA 1/16W
R1020	401 105 5400	MT-GLAZE 47K JA 1/16W
R1021	401 105 5301	MT-GLAZE 4.7K JA 1/16W
R1023	401 105 2003	MT-GLAZE 1.8K JA 1/16W
R1024	401 105 2003	MT-GLAZE 1.8K JA 1/16W
R1025	401 105 5301	MT-GLAZE 4.7K JA 1/16W
R1026	401 105 6001	MT-GLAZE 5.6K JA 1/16W
R1027	401 105 5905	MT-GLAZE 560 JA 1/16W
R1028	401 105 3208	MT-GLAZE 270 JA 1/16W
R1029	401 113 5409	MT-GLAZE 510 JA 1/16W
R1030	401 105 5202	MT-GLAZE 470 JA 1/16W
R1031	401 105 7404	MT-GLAZE 8.2K JA 1/16W
R1032	401 105 6001	MT-GLAZE 5.6K JA 1/16W
R1033	401 105 0504	MT-GLAZE 1K JA 1/16W
R1034	401 105 7503	MT-GLAZE 82K JA 1/16W
R1035	401 105 8005	MT-GLAZE 1M JA 1/16W
R1037	401 105 8104	MT-GLAZE 56K JA 1/16W
R1038	401 105 3406	MT-GLAZE 27K JA 1/16W
R1039	401 105 4205	MT-GLAZE 33K JA 1/16W
R1040	401 105 2102	MT-GLAZE 18K JA 1/16W
R1041	401 105 6605	MT-GLAZE 6.8K JA 1/16W
R1043	401 105 4601	MT-GLAZE 3.9K JA 1/16W
R1044	401 105 2706	MT-GLAZE 220 JA 1/16W
R1046	401 105 4700	MT-GLAZE 39K JA 1/16W
R1047	401 105 1105	MT-GLAZE 12K JA 1/16W
R1048	401 105 5400	MT-GLAZE 47K JA 1/16W
R1049	401 105 5301	MT-GLAZE 4.7K JA 1/16W
R1050	401 105 6506	MT-GLAZE 680 JA 1/16W
R1051	401 105 1006	MT-GLAZE 1.2K JA 1/16W
R1052	401 105 6506	MT-GLAZE 680 JA 1/16W
R1053	401 105 4106	MT-GLAZE 3.3K JA 1/16W
R1054	401 105 0504	MT-GLAZE 1K JA 1/16W
R1055	401 105 0504	MT-GLAZE 1K JA 1/16W
R1056	401 105 4106	MT-GLAZE 3.3K JA 1/16W
R1057	401 105 5301	MT-GLAZE 4.7K JA 1/16W
R1058	401 105 0900	MT-GLAZE 120 JA 1/16W
R1060	401 105 8104	MT-GLAZE 56K JA 1/16W
R1061	401 105 1600	MT-GLAZE 15K JA 1/16W
R1062	401 105 2904	MT-GLAZE 22K JA 1/16W
R1064	401 105 1600	MT-GLAZE 15K JA 1/16W
R1065	401 105 4106	MT-GLAZE 3.3K JA 1/16W
R1066	401 105 0603	MT-GLAZE 10K JA 1/16W
R1067	401 105 0504	MT-GLAZE 1K JA 1/16W

LOCATION	PARTS NO.	DESCRIPTION	
R1068	401 105 5202	MT-GLAZE	470 JA 1/16W
R1069	401 105 7404	MT-GLAZE	8.2K JA 1/16W
R1070	401 105 1006	MT-GLAZE	1.2K JA 1/16W
R1071	401 105 5202	MT-GLAZE	470 JA 1/16W
R1073	401 105 7305	MT-GLAZE	820 JA 1/16W
R1074	401 105 7305	MT-GLAZE	820 JA 1/16W
R1075	401 105 4106	MT-GLAZE	3.3K JA 1/16W
R1076	401 105 4106	MT-GLAZE	3.3K JA 1/16W
R1077	401 105 1501	MT-GLAZE	1.5K JA 1/16W
R1078	401 105 1501	MT-GLAZE	1.5K JA 1/16W
R1079	401 105 2805	MT-GLAZE	2.2K JA 1/16W
R1080	401 105 2706	MT-GLAZE	220 JA 1/16W
R1081	401 105 7305	MT-GLAZE	820 JA 1/16W
R1082	401 105 2904	MT-GLAZE	22K JA 1/16W
R1083	401 105 4205	MT-GLAZE	33K JA 1/16W
R1084	401 105 3307	MT-GLAZE	2.7K JA 1/16W
R1085	401 105 5905	MT-GLAZE	560 JA 1/16W
R1086	401 105 4007	MT-GLAZE	330 JA 1/16W
R1088	401 105 2805	MT-GLAZE	2.2K JA 1/16W
R1090	401 105 0405	MT-GLAZE	100 JA 1/16W
R1091	401 105 5202	MT-GLAZE	470 JA 1/16W
R1093	401 105 5202	MT-GLAZE	470 JA 1/16W
R1096	401 105 5905	MT-GLAZE	560 JA 1/16W
R1097	401 105 4601	MT-GLAZE	3.9K JA 1/16W
R1098	401 105 5905	MT-GLAZE	560 JA 1/16W
R1099	401 105 2904	MT-GLAZE	22K JA 1/16W
R1100	401 105 2904	MT-GLAZE	22K JA 1/16W
R1101	401 105 2805	MT-GLAZE	2.2K JA 1/16W
R1103	401 105 5905	MT-GLAZE	560 JA 1/16W
R1104	401 105 2003	MT-GLAZE	1.8K JA 1/16W
R1105	401 105 4007	MT-GLAZE	330 JA 1/16W
R1106	401 105 2805	MT-GLAZE	2.2K JA 1/16W
R1107	401 105 7305	MT-GLAZE	820 JA 1/16W
R1108	401 105 0603	MT-GLAZE	10K JA 1/16W
R1109	401 105 1105	MT-GLAZE	12K JA 1/16W
R1110	401 105 5202	MT-GLAZE	470 JA 1/16W
R1111	401 105 6407	MT-GLAZE	68 JA 1/16W
R1113	401 105 7404	MT-GLAZE	8.2K JA 1/16W
R1115	401 105 2102	MT-GLAZE	18K JA 1/16W
R1116	401 105 5905	MT-GLAZE	560 JA 1/16W
R1117	401 105 2102	MT-GLAZE	18K JA 1/16W
R1118	401 105 4502	MT-GLAZE	390 JA 1/16W
R1119	401 105 0504	MT-GLAZE	1K JA 1/16W
R1120	401 105 1501	MT-GLAZE	1.5K JA 1/16W
R1121	401 105 4106	MT-GLAZE	3.3K JA 1/16W
R1122	401 105 2805	MT-GLAZE	2.2K JA 1/16W
R1123	401 105 2805	MT-GLAZE	2.2K JA 1/16W
R1124	401 105 4106	MT-GLAZE	3.3K JA 1/16W
R1125	401 105 3307	MT-GLAZE	2.7K JA 1/16W
R1126	401 105 6506	MT-GLAZE	680 JA 1/16W
R1127	401 105 5301	MT-GLAZE	4.7K JA 1/16W
R1128	401 105 1006	MT-GLAZE	1.2K JA 1/16W
R1129	401 105 4106	MT-GLAZE	3.3K JA 1/16W
R1130	401 105 1501	MT-GLAZE	1.5K JA 1/16W
R1131	401 105 1600	MT-GLAZE	15K JA 1/16W
R1132	401 105 0504	MT-GLAZE	1K JA 1/16W
R1133	401 105 1501	MT-GLAZE	1.5K JA 1/16W
R1134	401 105 0603	MT-GLAZE	10K JA 1/16W
R1135	401 105 0504	MT-GLAZE	1K JA 1/16W
R1136	401 105 4106	MT-GLAZE	3.3K JA 1/16W
R1137	401 105 5202	MT-GLAZE	470 JA 1/16W
R1138	401 105 1501	MT-GLAZE	1.5K JA 1/16W
R1139	401 105 1006	MT-GLAZE	1.2K JA 1/16W
R1140	401 105 1006	MT-GLAZE	1.2K JA 1/16W
R1141	401 105 1006	MT-GLAZE	1.2K JA 1/16W
R1142	401 105 4106	MT-GLAZE	3.3K JA 1/16W
R1143	401 105 0702	MT-GLAZE	100K JA 1/16W
R1144	401 105 0504	MT-GLAZE	1K JA 1/16W
R1145	401 105 2904	MT-GLAZE	22K JA 1/16W

LOCATION	PARTS NO.	DESCRIPTION	
R1146	401 105 0603	MT-GLAZE	10K JA 1/16W
R1147	401 105 0603	MT-GLAZE	10K JA 1/16W
R1148	401 105 0603	MT-GLAZE	10K JA 1/16W
R1149	401 105 5400	MT-GLAZE	47K JA 1/16W
R1150	401 105 2805	MT-GLAZE	2.2K JA 1/16W
R1151	401 105 0603	MT-GLAZE	10K JA 1/16W
R1152	401 105 0603	MT-GLAZE	10K JA 1/16W
R1153	401 105 0603	MT-GLAZE	10K JA 1/16W
R1154	401 105 5400	MT-GLAZE	47K JA 1/16W
R1155	401 105 5301	MT-GLAZE	4.7K JA 1/16W
R1156	401 105 0504	MT-GLAZE	1K JA 1/16W
R1158	401 105 7909	MT-GLAZE	0 ZA 1/16W
R1171	401 105 5301	MT-GLAZE	4.7K JA 1/16W
R1201	401 105 7909	MT-GLAZE	0 ZA 1/16W
R1202	401 105 1600	MT-GLAZE	15K JA 1/16W
R1203	401 105 5905	MT-GLAZE	560 JA 1/16W
R1204	401 105 2003	MT-GLAZE	1.8K JA 1/16W
R1205	401 105 1501	MT-GLAZE	1.5K JA 1/16W
R1312	401 105 7909	MT-GLAZE	0 ZA 1/16W
R1401	401 105 0603	MT-GLAZE	10K JA 1/16W
R1405	401 105 0405	MT-GLAZE	100 JA 1/16W
R1406	401 105 1006	MT-GLAZE	1.2K JA 1/16W
R1407	401 105 8005	MT-GLAZE	1M JA 1/16W
R1408	401 105 8005	MT-GLAZE	1M JA 1/16W
R1409	401 105 7909	MT-GLAZE	0 ZA 1/16W
R1410	401 105 7909	MT-GLAZE	0 ZA 1/16W
R1411	401 105 7909	MT-GLAZE	0 ZA 1/16W
R1412	401 105 7909	MT-GLAZE	0 ZA 1/16W
R1413	401 105 7909	MT-GLAZE	0 ZA 1/16W
R1414	401 105 8005	MT-GLAZE	1M JA 1/16W
R1416	401 105 7909	MT-GLAZE	0 ZA 1/16W
R1418	401 105 4106	MT-GLAZE	3.3K JA 1/16W
R1423	401 105 2904	MT-GLAZE	22K JA 1/16W
R1424	401 105 5400	MT-GLAZE	47K JA 1/16W
R1425	401 105 4205	MT-GLAZE	33K JA 1/16W
R1426	401 105 0702	MT-GLAZE	100K JA 1/16W
R1427	401 105 3406	MT-GLAZE	27K JA 1/16W
R1428	401 105 5400	MT-GLAZE	47K JA 1/16W
R1429	401 105 1501	MT-GLAZE	1.5K JA 1/16W
R1430	401 105 4106	MT-GLAZE	3.3K JA 1/16W
R1431	401 105 0504	MT-GLAZE	1K JA 1/16W
R1432	401 105 0504	MT-GLAZE	1K JA 1/16W
R1433	401 105 0702	MT-GLAZE	100K JA 1/16W
R1434	401 105 4106	MT-GLAZE	3.3K JA 1/16W
R1435	401 105 3307	MT-GLAZE	2.7K JA 1/16W
R1436	401 105 1501	MT-GLAZE	1.5K JA 1/16W
R1437	401 105 0504	MT-GLAZE	1K JA 1/16W
R1438	401 105 3307	MT-GLAZE	2.7K JA 1/16W
R1439	401 105 5400	MT-GLAZE	47K JA 1/16W
R1440	401 105 5400	MT-GLAZE	47K JA 1/16W
R1441	401 105 2805	MT-GLAZE	2.2K JA 1/16W
R1442	401 105 0603	MT-GLAZE	10K JA 1/16W
R1443	401 105 1105	MT-GLAZE	12K JA 1/16W
R1444	401 105 0603	MT-GLAZE	10K JA 1/16W
R1445	401 105 5400	MT-GLAZE	47K JA 1/16W
R1446	401 105 5400	MT-GLAZE	47K JA 1/16W
R1447	401 105 6001	MT-GLAZE	5.6K JA 1/16W
R1448	401 105 5400	MT-GLAZE	47K JA 1/16W
R1449	401 105 0504	MT-GLAZE	1K JA 1/16W
R1450	401 105 7404	MT-GLAZE	8.2K JA 1/16W
R1451	401 105 5202	MT-GLAZE	470 JA 1/16W
R1454	401 105 0603	MT-GLAZE	10K JA 1/16W
R1455	401 105 1709	MT-GLAZE	150K JA 1/16W
R1456	401 105 7909	MT-GLAZE	0 ZA 1/16W
R1457	401 105 7909	MT-GLAZE	0 ZA 1/16W
R1458	401 142 6507	MT-GLAZE	10M KA 1/10W
R1601	401 105 5400	MT-GLAZE	47K JA 1/16W
R1602	401 105 5301	MT-GLAZE	4.7K JA 1/16W
R1604	401 105 0504	MT-GLAZE	1K JA 1/16W

LOCATION	PARTS NO.	DESCRIPTION
R1605	401 105 5202	MT-GLAZE 470 JA 1/16W
R2001	401 105 0504	MT-GLAZE 1K JA 1/16W
R2002	401 105 0504	MT-GLAZE 1K JA 1/16W
R2003	401 105 4601	MT-GLAZE 3.9K JA 1/16W
R2004	401 105 7305	MT-GLAZE 820 JA 1/16W
R2005	401 105 5202	MT-GLAZE 470 JA 1/16W
R2006	401 105 4205	MT-GLAZE 33K JA 1/16W
R2007	401 105 0504	MT-GLAZE 1K JA 1/16W
R2008	401 105 0603	MT-GLAZE 10K JA 1/16W
R2009	401 105 7404	MT-GLAZE 8.2K JA 1/16W
R2010	401 105 6605	MT-GLAZE 6.8K JA 1/16W
R2011	401 105 0603	MT-GLAZE 10K JA 1/16W
R2012	401 105 7404	MT-GLAZE 8.2K JA 1/16W
R2013	401 105 0603	MT-GLAZE 10K JA 1/16W
R2901	401 105 2805	MT-GLAZE 2.2K JA 1/16W
R2902	401 105 6001	MT-GLAZE 5.6K JA 1/16W
R2903	401 105 3406	MT-GLAZE 27K JA 1/16W
R2904	401 105 4106	MT-GLAZE 3.3K JA 1/16W
R2905	401 105 2706	MT-GLAZE 220 JA 1/16W
R2906	401 105 1105	MT-GLAZE 12K JA 1/16W
R2907	401 105 4007	MT-GLAZE 330 JA 1/16W
R2908	401 105 1105	MT-GLAZE 12K JA 1/16W
R2909	401 105 0603	MT-GLAZE 10K JA 1/16W
R2910	401 105 2904	MT-GLAZE 22K JA 1/16W
R2911	401 105 2904	MT-GLAZE 22K JA 1/16W
R2912	401 105 3307	MT-GLAZE 2.7K JA 1/16W
R2913	401 105 0504	MT-GLAZE 1K JA 1/16W
T1401	636 019 4953	FILTER
T2001	636 022 3806	FILTER,1.5MHZ
VR101	636 019 8074	SVR 47K OHM
VR102	636 019 7909	SVR 10K OHM
VR103	636 019 8074	SVR 47K OHM
VR104	636 019 8067	SVR 4.7K OHM
VR105	636 019 7985	SVR 2.2K OHM
VR106	636 019 7985	SVR 2.2K OHM
VR107	636 019 8050	SVR 470 OHM
VR108	636 019 7909	SVR 10K OHM
VR109	636 019 7909	SVR 10K OHM
VR110	636 019 8067	SVR 4.7K OHM
VR111	636 019 7985	SVR 2.2K OHM
X1401	636 019 4977	CRYSTAL,4.433619MHZ
X1402	636 025 5265	FILTER,5.17MHZ
COMPL,SV-1		
COMPL.NO.	636 025 1298	
	636 022 4803	SHIELD,SIDE A
	636 022 4810	SHIELD,SIDE B
	636 022 4902	INSULATOR
C3202	403 152 9004	ELECT 47U M 6.3V
C3203	403 068 0409	CERAMIC 0.1U Z 25V
C3204	403 157 2604	CERAMIC 30P J 50V
C3206	403 134 7400	CERAMIC 1U Z 16V
C3207	403 068 2007	CERAMIC 0.022U K 25V
C3208	403 155 2200	CERAMIC 3300P K 50V
C3209	403 028 9800	CERAMIC 560P J 50V
C3210	403 157 3601	CERAMIC 100P J 50V
C3211	403 068 0409	CERAMIC 0.1U Z 25V
C3212	403 155 1807	CERAMIC 0.01U K 25V
C3213	403 155 1807	CERAMIC 0.01U K 25V
C3214	403 134 7400	CERAMIC 1U Z 16V
C3215	403 149 7303	CERAMIC 0.47U Z 16V
C3217	403 068 0409	CERAMIC 0.1U Z 25V
C3218	403 113 3805	CERAMIC 1000P K 50V
C3501	403 158 7608	TA-SOLID 4.7U M 10V

LOCATION	PARTS NO.	DESCRIPTION
C3502	403 155 1807	CERAMIC 0.01U K 25V
C3503	403 134 7400	CERAMIC 1U Z 16V
C3504	403 155 2101	CERAMIC 1500P K 50V
C3505	403 134 7400	CERAMIC 1U Z 16V
C3506	403 163 9802	CERAMIC 0.047U Z 25V
C3507	403 152 9707	ELECT 22U M 6.3V
C3508	403 158 8308	TA-SOLID 10U M 6.3V
C3509	403 158 8308	TA-SOLID 10U M 6.3V
C3510	403 152 9707	ELECT 22U M 6.3V
C3511	403 134 7400	CERAMIC 1U Z 16V
C3512	403 139 7108	CERAMIC 12P J 50V
C3513	403 139 7108	CERAMIC 12P J 50V
C3514	403 068 0409	CERAMIC 0.1U Z 25V
C3515	403 157 3601	CERAMIC 100P J 50V
C3516	403 157 3601	CERAMIC 100P J 50V
C3517	403 155 1807	CERAMIC 0.01U K 25V
C3518	403 155 1807	CERAMIC 0.01U K 25V
C3519	403 069 5601	CERAMIC 0.01U K 50V
C3520	403 134 7400	CERAMIC 1U Z 16V
C3521	403 134 7400	CERAMIC 1U Z 16V
C3522	403 134 7400	CERAMIC 1U Z 16V
C3523	403 134 7400	CERAMIC 1U Z 16V
C3526	403 114 5600	TA-SOLID 3.3U M 6.3V
C3701	403 152 9707	ELECT 22U M 6.3V
C3702	403 155 1807	CERAMIC 0.01U K 25V
C3703	403 152 9707	ELECT 22U M 6.3V
C3704	403 155 1807	CERAMIC 0.01U K 25V
C3705	403 152 9806	ELECT 10U M 16V
C3706	403 152 9806	ELECT 10U M 16V
C3707	403 100 9704	CERAMIC 0.1U M 25V
C3709	403 155 1609	CERAMIC 33P J 50V
C3710	403 155 1609	CERAMIC 33P J 50V
C3711	403 157 6602	CERAMIC 470P K 50V
C3712	403 157 3106	CERAMIC 56P J 50V
C3713	403 113 3805	CERAMIC 1000P K 50V
C3714	403 145 9905	CERAMIC 22P J 50V
C3715	403 155 2101	CERAMIC 1500P K 50V
C3716	403 068 2007	CERAMIC 0.022U K 25V
C3717	403 068 2007	CERAMIC 0.022U K 25V
C3718	403 068 0409	CERAMIC 0.1U Z 25V
C3719	403 073 1200	CERAMIC 0.033U K 50V
C3720	403 075 0706	CERAMIC 6800P K 50V
C3721	403 068 2007	CERAMIC 0.022U K 25V
C3722	403 068 5107	CERAMIC 0.047U Z 25V
C3723	403 155 1807	CERAMIC 0.01U K 25V
C3724	403 134 7400	CERAMIC 1U Z 16V
C3725	403 113 3805	CERAMIC 1000P K 50V
C3726	403 113 3805	CERAMIC 1000P K 50V
C3801	403 153 1205	ELECT 47U M 16V
C3802	403 068 0409	CERAMIC 0.1U Z 25V
C3803	403 165 4706	ELECT 100U M 10V
C3804	403 068 0409	CERAMIC 0.1U Z 25V
C3805	403 093 6803	OS-SOLID 15U M 10V
C3806	403 068 0409	CERAMIC 0.1U Z 25V
C3807	403 165 4706	ELECT 100U M 10V
C3808	403 068 0409	CERAMIC 0.1U Z 25V
C3809	403 091 4801	TA-SOLID 3.3U M 16V
C3810	403 100 9704	CERAMIC 0.1U M 25V
C3811	403 100 9704	CERAMIC 0.1U M 25V
C3812	403 100 9704	CERAMIC 0.1U M 25V
C3813	403 100 9704	CERAMIC 0.1U M 25V
C3814	403 100 9704	CERAMIC 0.1U M 25V
C3815	403 100 9704	CERAMIC 0.1U M 25V
C3816	403 158 7608	TA-SOLID 4.7U M 6.3V
C3817	403 155 1807	CERAMIC 0.01U K 25V
C3818	403 134 7400	CERAMIC 1U Z 16V
C3819	403 134 7400	CERAMIC 1U Z 16V
C3820	403 114 5600	TA-SOLID 3.3U M 6.3V
C3822	403 069 5601	CERAMIC 0.01U K 50V

LOCATION	PARTS NO.	DESCRIPTION
C3823	403 091 4801	TA-SOLID 3.3U M 16V
C3824	403 134 7400	CERAMIC 1U Z 16V
C3825	403 134 7400	CERAMIC 1U Z 16V
C3827	403 157 4202	CERAMIC 220P J 50V
CT321	636 000 4795	TRIMMER
D3201	407 106 1601	DEODE DCG015-TL
D3202	407 106 1601	DEODE DCG015-TL
D3203	407 106 1601	DEODE DCG015-TL
D3204	407 106 1601	DEODE DCG015-TL
D3205	407 106 1601	DEODE DCG015-TL
D3801	407 066 8702	DIODE SB10-05PCP-TD
D3802	407 066 8702	DIODE SB10-05PCP-TD
IC321	409 170 0603	IC UPD6142G-101-T1
IC322	409 170 0900	IC LVA519F-T1
IC323	409 170 0702	IC RTC4503(3.0V)
IC351	410 071 0203	IC CXP80116-126Q
IC352	409 085 0705	IC LB1631M-T1
IC353	409 018 3704	IC LA6358M-T1
IC354	409 111 7401	IC LVC550C
IC355	409 170 0801	IC PST529DMT-L
IC371	409 150 0500	IC CXA1204Q
IC381	409 139 5304	IC LB1617M-T1
IC382	409 139 5304	IC LB1617M-T1
IC383	409 004 8607	IC CX20115-T1
IC384	409 020 6809	IC LC4001BM-T1
L3201	636 003 2224	HF CHOKE,100UH
OR	636 020 3976	COIL,INDUCTOR 100UH
L3202	636 003 1241	HF CHOKE,33UH
L3501	636 002 8524	LF CHOKE,100UH
L3502	636 002 9767	HF CHOKE,100UH
L3701	636 002 8876	RF CHOKE,330UH
L3702	636 003 2224	HF CHOKE,100UH
OR	636 020 3976	COIL,INDUCTOR 100UH
L3703	636 003 2224	HF CHOKE,100UH
OR	636 020 3976	COIL,INDUCTOR 100UH
L3801	636 023 4635	COIL,INDUCTOR 220UH
L3802	636 023 6226	COIL,INDUCTOR 700UH
L3803	636 023 4659	COIL,INDUCTOR 2MH
Q3201	405 077 3105	TR 2SC4211-5-TL
Q3202	405 078 6709	TR 2SC4396-TL
Q3203	405 077 3105	TR 2SC4211-5-TL
Q3204	405 078 6709	TR 2SC4396-TL
Q3205	405 078 6709	TR 2SC4396-TL
Q3207	405 078 5801	TR 2SA1676-TL
Q3208	405 078 5801	TR 2SA1676-TL
Q3501	405 047 9304	TR 2SB1205-S-TL
Q3502	405 077 3105	TR 2SC4211-5-TL
Q3503	405 078 5801	TR 2SA1676-TL
Q3504	405 078 6709	TR 2SC4396-TL
Q3505	405 078 5801	TR 2SA1676-TL
Q3506	405 078 6709	TR 2SC4396-TL
Q3509	405 035 1105	TR FMW1-T99
Q3510	405 035 1105	TR FMW1-T99
Q3511	405 078 6402	TR 2SA1678-TL
Q3512	405 078 4300	TR 2SC4398-TL
Q3513	405 078 6709	TR 2SC4396-TL
Q3514	405 077 3105	TR 2SC4211-5-TL
Q3515	405 077 3105	TR 2SC4211-5-TL
Q3516	405 035 1105	TR FMW1-T99
Q3517	405 078 6709	TR 2SC4396-TL
Q3518	405 078 6402	TR 2SA1678-TL
Q3701	405 077 3105	TR 2SC4211-5-TL
Q3702	405 077 2207	TR 2SA1622-6-TL
Q3801	405 006 8904	TR 2SB1121-T-TD
Q3802	405 006 8904	TR 2SB1121-T-TD
Q3803	405 078 4300	TR 2SC4398-TL
Q3805	405 078 4300	TR 2SC4398-TL
Q3806	405 078 4300	TR 2SC4398-TL
R3201	401 105 5202	MT-GLAZE 470 JA 1/16W
R3202	401 105 0603	MT-GLAZE 10K JA 1/16W
R3203	401 105 3406	MT-GLAZE 27K JA 1/16W
R3204	401 105 7404	MT-GLAZE 8.2K JA 1/16W
R3205	401 105 3307	MT-GLAZE 2.7K JA 1/16W
R3206	401 105 3307	MT-GLAZE 2.7K JA 1/16W
R3207	401 105 0603	MT-GLAZE 10K JA 1/16W
R3208	401 105 0603	MT-GLAZE 10K JA 1/16W
R3209	401 105 0603	MT-GLAZE 10K JA 1/16W
R3210	401 105 0603	MT-GLAZE 10K JA 1/16W
R3211	401 105 3307	MT-GLAZE 2.7K JA 1/16W
R3212	401 105 8005	MT-GLAZE 1M JA 1/16W
R3213	401 105 7909	MT-GLAZE 0 ZA 1/16W
R3214	401 105 7909	MT-GLAZE 0 ZA 1/16W
R3217	401 105 0405	MT-GLAZE 100 JA 1/16W
R3218	401 105 5400	MT-GLAZE 47K JA 1/16W
R3220	401 105 0603	MT-GLAZE 10K JA 1/16W
R3221	401 105 0405	MT-GLAZE 100 JA 1/16W
R3501	401 105 0504	MT-GLAZE 1K JA 1/16W
R3502	401 105 0504	MT-GLAZE 1K JA 1/16W
R3503	401 037 1907	MT-GLAZE 680 JA 1/8W
R3504	401 037 1907	MT-GLAZE 680 JA 1/8W
R3505	401 105 0702	MT-GLAZE 100K JA 1/16W
R3506	401 105 0702	MT-GLAZE 100K JA 1/16W
R3507	401 105 0702	MT-GLAZE 100K JA 1/16W
R3508	401 105 0702	MT-GLAZE 100K JA 1/16W
R3509	401 105 0405	MT-GLAZE 100 JA 1/16W
R3510	401 105 8104	MT-GLAZE 56K JA 1/16W
R3511	401 105 8104	MT-GLAZE 56K JA 1/16W
R3516	401 105 1709	MT-GLAZE 150K JA 1/16W
R3517	401 105 0603	MT-GLAZE 10K JA 1/16W
R3518	401 105 5400	MT-GLAZE 47K JA 1/16W
R3519	401 105 8104	MT-GLAZE 56K JA 1/16W
R3520	401 105 0702	MT-GLAZE 100K JA 1/16W
R3521	401 105 1709	MT-GLAZE 150K JA 1/16W
R3522	401 105 0603	MT-GLAZE 10K JA 1/16W
R3523	401 105 5400	MT-GLAZE 47K JA 1/16W
R3524	401 105 8104	MT-GLAZE 56K JA 1/16W
R3525	401 105 0702	MT-GLAZE 100K JA 1/16W
R3526	401 105 0702	MT-GLAZE 100K JA 1/16W
R3527	401 105 0702	MT-GLAZE 100K JA 1/16W
R3528	401 105 0603	MT-GLAZE 10K JA 1/16W
R3529	401 105 0603	MT-GLAZE 10K JA 1/16W
R3530	401 105 4106	MT-GLAZE 3.3K JA 1/16W
R3531	401 105 4106	MT-GLAZE 3.3K JA 1/16W
R3532	401 105 0603	MT-GLAZE 10K JA 1/16W
R3533	401 105 0603	MT-GLAZE 10K JA 1/16W
R3534	401 105 0702	MT-GLAZE 100K JA 1/16W
R3535	401 105 0603	MT-GLAZE 10K JA 1/16W
R3536	401 105 5905	MT-GLAZE 560 JA 1/16W
R3537	401 036 1403	MT-GLAZE 220 JA 1/8W
R3539	401 105 0603	MT-GLAZE 10K JA 1/16W
R3540	401 105 0702	MT-GLAZE 100K JA 1/16W
R3541	401 105 0702	MT-GLAZE 100K JA 1/16W
R3542	401 105 0702	MT-GLAZE 100K JA 1/16W
R3543	401 105 2201	MT-GLAZE 180K JA 1/16W
R3544	401 105 0702	MT-GLAZE 100K JA 1/16W
R3545	401 105 0603	MT-GLAZE 10K JA 1/16W
R3546	401 105 3505	MT-GLAZE 270K JA 1/16W
R3547	401 105 5400	MT-GLAZE 47K JA 1/16W
R3548	401 105 0603	MT-GLAZE 10K JA 1/16W
R3551	401 105 0702	MT-GLAZE 100K JA 1/16W
R3552	401 105 0702	MT-GLAZE 100K JA 1/16W
R3553	401 105 0702	MT-GLAZE 100K JA 1/16W

LOCATION	PARTS NO.	DESCRIPTION	
R3554	401 105 0603	MT-GLAZE	10K JA 1/16W
R3555	401 105 0603	MT-GLAZE	10K JA 1/16W
R3557	401 105 0702	MT-GLAZE	100K JA 1/16W
R3558	401 105 0702	MT-GLAZE	100K JA 1/16W
R3559	401 105 0702	MT-GLAZE	100K JA 1/16W
R3560	401 105 0702	MT-GLAZE	100K JA 1/16W
R3561	401 105 0702	MT-GLAZE	100K JA 1/16W
R3562	401 105 3000	MT-GLAZE	220K JA 1/16W
R3563	401 105 3000	MT-GLAZE	220K JA 1/16W
R3564	401 105 0702	MT-GLAZE	100K JA 1/16W
R3565	401 105 0702	MT-GLAZE	100K JA 1/16W
R3566	401 105 0702	MT-GLAZE	100K JA 1/16W
R3567	401 105 1709	MT-GLAZE	150K JA 1/16W
R3568	401 105 2904	MT-GLAZE	22K JA 1/16W
R3569	401 105 2904	MT-GLAZE	22K JA 1/16W
R3570	401 105 3000	MT-GLAZE	220K JA 1/16W
R3571	401 105 3505	MT-GLAZE	270K JA 1/16W
R3572	401 105 3000	MT-GLAZE	220K JA 1/16W
R3573	401 105 2904	MT-GLAZE	22K JA 1/16W
R3575	401 105 0603	MT-GLAZE	10K JA 1/16W
R3580	401 105 0702	MT-GLAZE	100K JA 1/16W
R3581	401 105 7909	MT-GLAZE	0 ZA 1/16W
R3582	401 105 5301	MT-GLAZE	4.7K JA 1/16W
R3583	401 105 0603	MT-GLAZE	10K JA 1/16W
R3584	401 105 5400	MT-GLAZE	47K JA 1/16W
R3701	401 105 0603	MT-GLAZE	10K JA 1/16W
R3702	401 105 5400	MT-GLAZE	47K JA 1/16W
R3703	401 105 5400	MT-GLAZE	47K JA 1/16W
R3705	401 105 0603	MT-GLAZE	10K JA 1/16W
R3706	401 105 0504	MT-GLAZE	1K JA 1/16W
R3707	401 105 1006	MT-GLAZE	1.2K JA 1/16W
R3708	401 105 8005	MT-GLAZE	1M JA 1/16W
R3709	401 105 0603	MT-GLAZE	10K JA 1/16W
R3710	401 105 0603	MT-GLAZE	10K JA 1/16W
R3711	401 105 0603	MT-GLAZE	10K JA 1/16W
R3712	401 105 0603	MT-GLAZE	10K JA 1/16W
R3713	401 105 0603	MT-GLAZE	10K JA 1/16W
R3714	401 105 0603	MT-GLAZE	10K JA 1/16W
R3715	401 105 6704	MT-GLAZE	680K JA 1/16W
R3716	401 105 1402	MT-GLAZE	150 JA 1/16W
R3717	401 105 4205	MT-GLAZE	33K JA 1/16W
R3718	401 105 7404	MT-GLAZE	8.2K JA 1/16W
R3719	401 105 6605	MT-GLAZE	6.8K JA 1/16W
R3720	401 105 4106	MT-GLAZE	3.3K JA 1/16W
R3721	401 105 4106	MT-GLAZE	3.3K JA 1/16W
R3722	401 105 5301	MT-GLAZE	4.7K JA 1/16W
R3723	401 105 4106	MT-GLAZE	3.3K JA 1/16W
R3724	401 105 4106	MT-GLAZE	3.3K JA 1/16W
R3725	401 105 5301	MT-GLAZE	4.7K JA 1/16W
R3726	401 105 0603	MT-GLAZE	10K JA 1/16W
R3729	401 105 5202	MT-GLAZE	470 JA 1/16W
R3730	401 105 5202	MT-GLAZE	470 JA 1/16W
R3731	401 105 5509	MT-GLAZE	470K JA 1/16W
R3732	401 105 1907	MT-GLAZE	180 JA 1/16W
R3733	401 105 7909	MT-GLAZE	0 ZA 1/16W
R3801	401 105 5202	MT-GLAZE	470 JA 1/16W
R3802	401 037 1907	MT-GLAZE	680 JA 1/8W
R3803	401 105 5202	MT-GLAZE	470 JA 1/16W
R3804	401 037 3703	MT-GLAZE	820 JA 1/8W
R3805	401 113 3009	MT-GLAZE	3.3 KA 1/16W
R3806	401 113 3009	MT-GLAZE	3.3 KA 1/16W
R3807	401 113 3009	MT-GLAZE	3.3 KA 1/16W
R3808	401 105 0603	MT-GLAZE	10K JA 1/16W
R3809	401 105 4205	MT-GLAZE	33K JA 1/16W
R3810	401 105 0603	MT-GLAZE	10K JA 1/16W
R3811	401 105 7909	MT-GLAZE	0 ZA 1/16W
R3812	401 113 3009	MT-GLAZE	3.3 KA 1/16W
R3813	401 113 3009	MT-GLAZE	3.3 KA 1/16W
R3814	401 113 3009	MT-GLAZE	3.3 KA 1/16W

LOCATION	PARTS NO.	DESCRIPTION	
R3815	401 105 0603	MT-GLAZE	10K JA 1/16W
R3816	401 105 7503	MT-GLAZE	82K JA 1/16W
R3817	401 105 7909	MT-GLAZE	0 ZA 1/16W
R3818	401 105 0702	MT-GLAZE	100K JA 1/16W
R3821	401 105 0603	MT-GLAZE	10K JA 1/16W
R3822	401 105 4106	MT-GLAZE	3.3K JA 1/16W
R3823	401 105 0702	MT-GLAZE	100K JA 1/16W
R3824	401 105 7909	MT-GLAZE	0 ZA 1/16W
R3825	401 105 7909	MT-GLAZE	0 ZA 1/16W
R3826	401 037 3703	MT-GLAZE	820 JA 1/8W
R3827	401 037 1907	MT-GLAZE	680 JA 1/8W
R3828	401 038 3702	MT-GLAZE	33K JA 1/10W
R3829	401 105 7909	MT-GLAZE	0 ZA 1/16W
VR321	636 019 7909	SVR 10K OHM	
VR351	636 019 8074	SVR 47K OHM	
VR352	636 019 7916	SVR 100K OHM	
VR353	636 019 7916	SVR 100K OHM	
X3501	636 023 4680	OSC,CRYSTAL 8MHZ	
X3701	636 000 4917	CRYSTAL,5.86MHZ	
COMPL,SY-1			
COMPL.NO.	636 023 5960		
C3001	403 152 9707	ELECT	22U M 6.3V
OR	403 162 4006	ELECT	22U M 6.3V
D3001	407 106 1601	DIODE DCG015-TL	
D3002	407 106 1601	DIODE DCG015-TL	
D3003	407 106 1601	DIODE DCG015-TL	
D3004	407 106 1601	DIODE DCG015-TL	
D3005	407 106 1601	DIODE DCG015-TL	
D3006	407 106 1601	DIODE DCG015-TL	
D3007	407 106 1601	DIODE DCG015-TL	
D3008	407 106 1601	DIODE DCG015-TL	
D3009	407 114 4601	LED SLZ-881C-21	
IC301	410 057 9107	IC UPD75546-574	
Q3001	405 077 2207	TR 2SA1622-6-TL	
Q3002	405 078 4300	TR 2SC4398-TL	
Q3003	405 077 2207	TR 2SA1622-6-TL	
Q3004	405 077 2207	TR 2SA1622-6-TL	
Q3005	405 077 2207	TR 2SA1622-6-TL	
Q3006	405 077 2207	TR 2SA1622-6-TL	
Q3007	405 077 2207	TR 2SA1622-6-TL	
R3001	401 105 4700	MT-GLAZE	39K JA 1/16W
R3002	401 105 0603	MT-GLAZE	10K JA 1/16W
R3003	401 105 0405	MT-GLAZE	100 JA 1/16W
R3004	401 105 0603	MT-GLAZE	10K JA 1/16W
R3006	401 105 0702	MT-GLAZE	100K JA 1/16W
R3007	401 105 0603	MT-GLAZE	10K JA 1/16W
R3008	401 105 1709	MT-GLAZE	150K JA 1/16W
R3010	401 105 0702	MT-GLAZE	100K JA 1/16W
R3011	401 105 5202	MT-GLAZE	470 JA 1/16W
R3012	401 105 5400	MT-GLAZE	47K JA 1/16W
R3013	401 105 5400	MT-GLAZE	47K JA 1/16W
R3014	401 105 5400	MT-GLAZE	47K JA 1/16W
R3015	401 105 5400	MT-GLAZE	47K JA 1/16W
R3016	401 105 5400	MT-GLAZE	47K JA 1/16W
R3017	401 105 5400	MT-GLAZE	47K JA 1/16W
R3018	401 105 5400	MT-GLAZE	47K JA 1/16W
R3019	401 105 5400	MT-GLAZE	47K JA 1/16W
R3020	401 105 0702	MT-GLAZE	100K JA 1/16W
R3021	401 105 0702	MT-GLAZE	100K JA 1/16W
R3022	401 105 0702	MT-GLAZE	100K JA 1/16W
R3023	401 105 0702	MT-GLAZE	100K JA 1/16W

LOCATION	PARTS NO.	DESCRIPTION
R3024	401 105 5202	MT-GLAZE 470 JA 1/16W
R3025	401 105 5400	MT-GLAZE 47K JA 1/16W
R3026	401 105 0702	MT-GLAZE 100K JA 1/16W
S3001	636 000 8311	SLIDE SWITCH
S3002	636 000 8311	SLIDE SWITCH
S3003	636 000 8571	PUSH SWITCH
S3004	636 000 8571	PUSH SWITCH
S3005	636 000 8571	PUSH SWITCH
S3006	636 000 8571	PUSH SWITCH
S3007	636 000 8571	PUSH SWITCH
S3008	636 000 8571	PUSH SWITCH
S3009	636 000 8571	PUSH SWITCH
S3010	636 000 8571	PUSH SWITCH
S3011	636 000 8571	PUSH SWITCH
COMPL.VP-1		
COMPL.NO.	636 023 5984	
	636 022 4780	SHIELD.SIDE A
	636 022 4797	SHIELD.SIDE B
	636 025 0277	INSULATOR
	636 025 0284	INSULATOR
C1501	403 157 3601	CERAMIC 100P J 50V
C1502	403 155 1302	CERAMIC 150P J 50V
C1503	403 153 9300	CERAMIC 82P J 50V
C1504	403 157 3601	CERAMIC 100P J 50V
C1505	403 157 8309	CERAMIC 0.1U Z 16V
C1901	403 157 8309	CERAMIC 0.1U Z 16V
C1902	403 155 1807	CERAMIC 0.01U K 25V
C1903	403 155 1807	CERAMIC 0.01U K 25V
C1904	403 157 8309	CERAMIC 0.1U Z 16V
C1905	403 157 8309	CERAMIC 0.1U Z 16V
C1906	403 157 8309	CERAMIC 0.1U Z 16V
C1907	403 157 8309	CERAMIC 0.1U Z 16V
C1908	403 157 8309	CERAMIC 0.1U Z 16V
C1909	403 157 8309	CERAMIC 0.1U Z 16V
C1910	403 155 1807	CERAMIC 0.01U K 25V
C1911	403 155 1807	CERAMIC 0.01U K 25V
C1912	403 157 8309	CERAMIC 0.1U Z 16V
C1913	403 155 1807	CERAMIC 0.01U K 25V
C1914	403 155 1807	CERAMIC 0.01U K 25V
C1915	403 157 7906	CERAMIC 0.047U Z 16V
C1916	403 155 1807	CERAMIC 0.01U K 25V
C1917	403 157 8309	CERAMIC 0.1U Z 16V
C1918	403 158 7608	TA-SOLID 4.7U M 6.3V
C1919	403 157 8309	CERAMIC 0.1U Z 16V
C1920	403 158 7608	TA-SOLID 4.7U M 6.3V
C1921	403 157 8309	CERAMIC 0.1U Z 16V
C1922	403 158 7608	TA-SOLID 4.7U M 6.3V
C1923	403 157 8309	CERAMIC 0.1U Z 16V
C1924	403 158 7608	TA-SOLID 4.7U M 6.3V
C1925	403 158 7608	TA-SOLID 4.7U M 6.3V
C1926	403 157 8309	CERAMIC 0.1U Z 16V
C1927	403 155 1807	CERAMIC 0.01U K 25V
C1928	403 155 1807	CERAMIC 0.01U K 25V
C1929	403 157 8309	CERAMIC 0.1U Z 16V
C1930	403 157 8309	CERAMIC 0.1U Z 16V
C1931	403 157 8309	CERAMIC 0.1U Z 16V
C1932	403 157 8309	CERAMIC 0.1U Z 16V
C1933	403 157 8309	CERAMIC 0.1U Z 16V
C1934	403 157 8309	CERAMIC 0.1U Z 16V
C1935	403 155 1807	CERAMIC 0.01U K 25V
C1936	403 155 1807	CERAMIC 0.01U K 25V
C1937	403 157 8309	CERAMIC 0.1U Z 16V
C1938	403 155 1807	CERAMIC 0.01U K 25V
C1940	403 157 4202	CERAMIC 220P J 50V
C1941	403 155 1807	CERAMIC 0.01U K 25V

LOCATION	PARTS NO.	DESCRIPTION
C1942	403 155 1807	CERAMIC 0.01U K 25V
C1943	403 157 7906	CERAMIC 0.047U Z 16V
C1944	403 155 1807	CERAMIC 0.01U K 25V
C1945	403 157 8309	CERAMIC 0.1U Z 16V
C1946	403 158 7608	TA-SOLID 4.7U M 6.3V
C1947	403 157 8309	CERAMIC 0.1U Z 16V
C1948	403 158 7608	TA-SOLID 4.7U M 6.3V
C1949	403 158 7608	TA-SOLID 4.7U M 6.3V
C1950	403 157 8309	CERAMIC 0.1U Z 16V
C1951	403 157 8309	CERAMIC 0.1U Z 16V
C1952	403 158 7608	TA-SOLID 4.7U M 6.3V
C1953	403 158 7608	TA-SOLID 4.7U M 6.3V
C1954	403 157 8309	CERAMIC 0.1U Z 16V
C1955	403 157 8309	CERAMIC 0.1U Z 16V
C1956	403 157 8309	CERAMIC 0.1U Z 16V
C1957	403 157 8309	CERAMIC 0.1U Z 16V
C1958	403 157 8309	CERAMIC 0.1U Z 16V
C1959	403 155 2309	CERAMIC 4700P K 50V
C5001	403 042 3006	ELECT 100U M 16V
F5001 ⚠	636 000 0391	CIRCUIT PROTECTOR,1.0A
F5002 ⚠	423 000 0700	FUSE,3.15A
IC191	409 170 9200	IC CXA1202R
OR	409 170 9200	IC CXA1202R-T3
IC192	409 170 9200	IC CXA1202R
OR	409 170 9200	IC CXA1202R-T3
IC193	409 133 1906	IC UPD4071BG-T1
L1501	636 003 2101	HF CHOKE,10UH
L1502	636 002 8869	RF CHOKE,220UH
L1901	636 019 8555	COIL,INDUCTOR 10UH
L1902	636 019 8555	COIL,INDUCTOR 10UH
L1903	636 019 8555	COIL,INDUCTOR 10UH
L1904	636 019 8555	COIL,INDUCTOR 10UH
L1905	636 019 8555	COIL,INDUCTOR 10UH
L1906	636 019 8555	COIL,INDUCTOR 10UH
L1907	636 019 8555	COIL,INDUCTOR 10UH
L1908	636 019 8555	COIL,INDUCTOR 10UH
L5001	636 003 3924	HF CHOKE
L5002	636 003 3924	HF CHOKE
L5003	636 003 3924	HF CHOKE
Q1501	405 077 2207	TR 2SA1622-6-TL
Q1502	405 077 2207	TR 2SA1622-6-TL
Q1901	405 061 4101	TR 2SA1434
Q1902	405 061 4101	TR 2SA1434
Q1903	405 061 4101	TR 2SA1434
Q1904	405 061 4101	TR 2SA1434
Q1905	405 078 6709	TR 2SC4396-TL
Q1906	405 078 6709	TR 2SC4396-TL
Q1907	405 078 6709	TR 2SC4396-TL
Q1908	405 078 6709	TR 2SC4396-TL
Q1909	405 008 7707	TR 2SB815-B7
Q1910	405 078 6709	TR 2SC4396-TL
Q1911	405 078 6709	TR 2SC4396-TL
R1501	401 105 2607	MT-GLAZE 22 JA 1/16W
R1502	401 105 3208	MT-GLAZE 270 JA 1/16W
R1503	401 105 2706	MT-GLAZE 220 JA 1/16W
R1504	401 105 2904	MT-GLAZE 22K JA 1/16W
R1505	401 105 4205	MT-GLAZE 33K JA 1/16W
R1506	401 105 5301	MT-GLAZE 4.7K JA 1/16W
R1901	401 105 4205	MT-GLAZE 33K JA 1/16W
R1902	401 105 5301	MT-GLAZE 4.7K JA 1/16W
R1903	401 105 2904	MT-GLAZE 22K JA 1/16W
R1904	401 105 1501	MT-GLAZE 1.5K JA 1/16W
R1905	401 105 5400	MT-GLAZE 47K JA 1/16W
R1906	401 105 4700	MT-GLAZE 39K JA 1/16W

LOCATION	PARTS NO.	DESCRIPTION
R1907	401 105 3406	MT-GLAZE 27K JA 1/16W
R1908	401 105 5400	MT-GLAZE 47K JA 1/16W
R1909	401 105 1501	MT-GLAZE 1.5K JA 1/16W
R1910	401 105 2904	MT-GLAZE 22K JA 1/16W
R1911	401 105 4205	MT-GLAZE 33K JA 1/16W
R1912	401 105 5301	MT-GLAZE 4.7K JA 1/16W
R1913	401 105 6100	MT-GLAZE 560K JA 1/16W
R1914	401 105 4205	MT-GLAZE 33K JA 1/16W
R1915	401 105 5301	MT-GLAZE 4.7K JA 1/16W
R1916	401 105 2904	MT-GLAZE 22K JA 1/16W
R1917	401 105 1501	MT-GLAZE 1.5K JA 1/16W
R1918	401 105 5400	MT-GLAZE 47K JA 1/16W
R1919	401 105 4700	MT-GLAZE 39K JA 1/16W
R1920	401 105 3406	MT-GLAZE 27K JA 1/16W
R1921	401 105 5400	MT-GLAZE 47K JA 1/16W
R1922	401 105 1501	MT-GLAZE 1.5K JA 1/16W
R1923	401 105 2904	MT-GLAZE 22K JA 1/16W
R1924	401 105 4205	MT-GLAZE 33K JA 1/16W
R1925	401 105 5301	MT-GLAZE 4.7K JA 1/16W
R1926	401 105 0702	MT-GLAZE 100K JA 1/16W
R1927	401 105 1709	MT-GLAZE 150K JA 1/16W
R1928	401 105 6100	MT-GLAZE 560K JA 1/16W
R1929	401 105 1501	MT-GLAZE 1.5K JA 1/16W
R1930	401 105 1501	MT-GLAZE 1.5K JA 1/16W
R1931	401 105 1501	MT-GLAZE 1.5K JA 1/16W
R1932	401 105 1501	MT-GLAZE 1.5K JA 1/16W
R1936	401 105 5301	MT-GLAZE 4.7K JA 1/16W
R1937	401 105 0603	MT-GLAZE 10K JA 1/16W
R1938	401 105 0603	MT-GLAZE 10K JA 1/16W
R1939	401 105 0603	MT-GLAZE 10K JA 1/16W
R1940	401 105 0603	MT-GLAZE 10K JA 1/16W
R1941	401 105 0603	MT-GLAZE 10K JA 1/16W
R1942	401 105 5400	MT-GLAZE 47K JA 1/16W
R1943	401 105 2805	MT-GLAZE 2.2K JA 1/16W
R1944	401 105 0603	MT-GLAZE 10K JA 1/16W
R1945	401 105 0603	MT-GLAZE 10K JA 1/16W
R1950	401 105 5301	MT-GLAZE 4.7K JA 1/16W
COMPL,TB-1		
COMPL.NO.	636 023 6035	
D8601	407 101 5703	LED BR2202S-B1
S8601	636 024 1855	SW,PUSH
COMPL,CA-1		
COMPL.NO.	636 025 1571	
	636 022 4742	HOLDER
C9101	403 155 1807	CERAMIC 0.01U K 25V
C9105	403 157 4202	CERAMIC 220P J 50V
C9106	403 157 4202	CERAMIC 220P J 50V
C9107	403 157 4202	CERAMIC 220P J 50V
C9108	403 164 0204	CERAMIC 0.1U Z 25V
C9109	403 164 0204	CERAMIC 0.1U Z 25V
C9110	403 153 1403	ELECT 33U M 25V
C9111	403 152 9608	ELECT 47U M 4V
C9112	403 153 1403	ELECT 33U M 25V
C9113	403 164 0204	CERAMIC 0.1U Z 25V
C9114	403 157 1904	CERAMIC 10P D 50V
C9115	403 158 7707	TA-SOLID 3.3U M 10V
C9116	403 158 8902	TA-SOLID 10U M 10V
OR	403 158 8407	TA-SOLID 6.8U M 10V
C9117	403 153 1205	ELECT 47U M 16V
C9118	403 153 1205	ELECT 47U M 16V
C9119	403 153 1205	ELECT 47U M 16V
C9120	403 113 3805	CERAMIC 1000P K 50V
C9121	403 139 7702	CERAMIC 7P D 50V

LOCATION	PARTS NO.	DESCRIPTION
C9122	403 145 9905	CERAMIC 22P J 50V
C9123	403 155 1807	CERAMIC 0.01U K 25V
C9124	403 166 2107	TA-SOLID 47U M 4V
C9125	403 153 0901	ELECT 100U M 6.3V
C9126	403 153 0901	ELECT 100U M 6.3V
C9127	403 153 0901	ELECT 100U M 6.3V
C9129	403 164 0204	CERAMIC 0.1U Z 25V
C9130	403 157 1904	CERAMIC 10P D 50V
C9131	403 164 0204	CERAMIC 0.1U Z 25V
C9132	403 092 6606	TA-SOLID 0.22U M 35V
C9133	403 038 9708	ELECT 330U M 6.3V
C9134	403 114 5600	TA-SOLID 3.3U M 6.3V
C9135	403 089 6206	TA-SOLID 4.7U M 4V
C9136	403 152 9608	ELECT 47U M 4V
C9137	403 164 0204	CERAMIC 0.1U Z 25V
C9138	403 164 0204	CERAMIC 0.1U Z 25V
C9139	403 164 0204	CERAMIC 0.1U Z 25V
C9140	403 113 3805	CERAMIC 1000P K 50V
C9141	403 153 0901	ELECT 100U M 6.3V
C9142	403 164 0204	CERAMIC 0.1U Z 25V
C9143	403 157 4202	CERAMIC 220P J 50V
C9144	403 157 4202	CERAMIC 220P J 50V
C9145	403 164 0204	CERAMIC 0.1U Z 25V
C9146	403 164 0204	CERAMIC 0.1U Z 25V
C9147	403 155 4204	CERAMIC 15P J 50V
C9148	403 091 0407	TA-SOLID 1U M 16V
C9149	403 164 0204	CERAMIC 0.1U Z 25V
C9150	403 139 7306	CERAMIC 18P J 50V
C9151	403 164 0204	CERAMIC 0.1U Z 25V
C9152	403 164 0204	CERAMIC 0.1U Z 25V
C9153	403 164 0204	CERAMIC 0.1U Z 25V
C9154	403 164 0204	CERAMIC 0.1U Z 25V
C9155	403 164 0204	CERAMIC 0.1U Z 25V
C9156	403 114 5600	TA-SOLID 3.3U M 6.3V
C9157	403 114 5600	TA-SOLID 3.3U M 6.3V
C9158	403 164 0204	CERAMIC 0.1U Z 25V
C9159	403 164 0204	CERAMIC 0.1U Z 25V
C9161	403 152 9608	ELECT 47U M 4V
C9162	403 152 9608	ELECT 47U M 4V
C9163	403 164 0204	CERAMIC 0.1U Z 25V
C9164	403 164 0204	CERAMIC 0.1U Z 25V
C9165	403 155 1807	CERAMIC 0.01U K 25V
C9166	403 113 3805	CERAMIC 1000P K 50V
C9167	403 113 3805	CERAMIC 1000P K 50V
C9168	403 091 0407	TA-SOLID 1U M 16V
C9170	403 164 0204	CERAMIC 0.1U Z 25V
C9171	403 164 0204	CERAMIC 0.1U Z 25V
C9172	403 164 0204	CERAMIC 0.1U Z 25V
C9173	403 164 0204	CERAMIC 0.1U Z 25V
C9174	403 164 0204	CERAMIC 0.1U Z 25V
C9175	403 164 0204	CERAMIC 0.1U Z 25V
C9176	403 164 0204	CERAMIC 0.1U Z 25V
C9177	403 164 0204	CERAMIC 0.1U Z 25V
C9179	403 114 5600	TA-SOLID 3.3U M 6.3V
C9180	403 145 9905	CERAMIC 22P J 50V
C9191	403 164 0204	CERAMIC 0.1U Z 25V
C9192	403 164 0204	CERAMIC 0.1U Z 25V
C9193	403 164 0204	CERAMIC 0.1U Z 25V
C9194	403 164 0204	CERAMIC 0.1U Z 25V
C9195	403 158 8506	TA-SOLID 4.7U M 16V
C9196	403 158 8506	TA-SOLID 4.7U M 16V
C9197	403 158 8506	TA-SOLID 4.7U M 16V
C9198	403 158 8506	TA-SOLID 4.7U M 16V
D9101	407 113 5609	DIODE DSH01S-TL
D9102	407 086 5606	ZENER DIODE RD2.7MB1
D9106	407 120 5005	PHOTO DIODE AM-33CYT-01
D9107	407 113 1007	DIODE 1SS309-TE85L
D9109	407 113 5609	DIODE DSH01S-TL

LOCATION	PARTS NO.	DESCRIPTION
D9113	407 106 1601	DEODE DCG015-TL
D9114	407 106 1601	DEODE DCG015-TL
D9115	407 120 7603	ZENER DIODE MA8068-M-(TW)
F9101 ⚠	404 040 5306	CERAMIC 47P M 100V
F9102 ⚠	404 040 5504	CERAMIC 470P M 100V
IC901	409 169 5008	IC LC9903-SH
IC902	409 167 8001	IC LB8901M-T1
IC903	409 167 8100	IC LB8902M-T1
IC905	409 167 7608	IC LA7264M-T1
IC906	409 167 2702	IC LA7262M
IC907	409 018 3704	IC LA6358M-T1
IC908	409 617 7707	IC LA7266M
IC911	409 018 3704	IC LA6358M-T1
IC912	409 185 4009	IC LA6601M-T1
IC951	409 137 9007	IC TC4S81F(TE85L)
OR	409 159 2406	IC SC14S81FEL
IC952	409 149 5301	IC TC7S00F(TE85L)
OR	409 181 4201	IC SC7S00FEL
IC953	409 149 5301	IC TC7S00F(TE85L)
OR	409 181 4201	IC SC7S00FEL
IC954	409 167 7103	IC NJM2107F-TE1
IC955	409 167 7103	IC NJM2107F-TE1
IC956	409 155 7702	IC TC4S66F(TE85L)
OR	409 180 1409	IC SC14S66FEL
IC957	409 167 7103	IC NJM2107F-TE1
IC958	409 167 7202	IC NJM2406F-TE1
IC959	409 167 7103	IC NJM2107F-TE1
IC960	409 167 7103	IC NJM2107F-TE1
L9101	636 002 8821	RF CHOKE,10UH
L9102	636 002 8821	RF CHOKE,10UH
L9103	636 003 2347	HF CHOKE,3.3UH
L9104	636 002 8821	RF CHOKE,10UH
L9105	636 003 2194	HF CHOKE,56UH
Q9101	405 077 2207	TR 2SA1622-6-TL
Q9102	405 078 7003	TR 2SC4397-TL
Q9103	405 077 3402	TR 2SC4211-6-TL
Q9106	405 079 6302	TR 2SC4399-5-TL
Q9108	405 077 3402	TR 2SC4211-6-TL
Q9109	405 079 6302	TR 2SC4399-5-TL
Q9110	405 079 6302	TR 2SC4399-5-TL
Q9111	405 064 1800	TR FMG5-T99
Q9112	405 092 2107	TR 2SC4097-T106R
Q9113	405 092 1407	TR 2SA1577-T106-R
Q9114	405 092 2107	TR 2SC4097-T106R
Q9115	405 092 1407	TR 2SA1577-T106-R
R9002	401 105 7909	MT-GLAZE 0 ZA 1/16W
R9003	401 105 0603	MT-GLAZE 10K JA 1/16W
R9004	401 105 7404	MT-GLAZE 8.2K JA 1/16W
R9005	401 105 4106	MT-GLAZE 3.3K JA 1/16W
R9006	401 105 4205	MT-GLAZE 33K JA 1/16W
R9011	401 105 0504	MT-GLAZE 1K JA 1/16W
R9012	401 105 0504	MT-GLAZE 1K JA 1/16W
R9013	401 105 0504	MT-GLAZE 1K JA 1/16W
R9014	401 105 3901	MT-GLAZE 33 JA 1/16W
R9015	401 105 3901	MT-GLAZE 33 JA 1/16W
R9016	401 105 7909	MT-GLAZE 0 ZA 1/16W
R9017	401 105 0306	MT-GLAZE 10 JA 1/16W
R9018	401 105 0306	MT-GLAZE 10 JA 1/16W
R9019	401 105 5301	MT-GLAZE 4.7K JA 1/16W
R9020	401 105 0504	MT-GLAZE 1K JA 1/16W
R9021	401 105 6001	MT-GLAZE 5.6K JA 1/16W
R9022	401 105 3000	MT-GLAZE 220K JA 1/16W
R9023	401 105 0603	MT-GLAZE 10K JA 1/16W
R9024	401 105 6704	MT-GLAZE 680K JA 1/16W

LOCATION	PARTS NO.	DESCRIPTION
R9027	401 105 5301	MT-GLAZE 4.7K JA 1/16W
R9028	401 105 0405	MT-GLAZE 100 JA 1/16W
R9029	401 105 4205	MT-GLAZE 33K JA 1/16W
R9030	401 105 7909	MT-GLAZE 0 ZA 1/16W
R9031	401 105 0603	MT-GLAZE 10K JA 1/16W
R9032	401 105 6605	MT-GLAZE 6.8K JA 1/16W
R9033	401 105 4205	MT-GLAZE 33K JA 1/16W
R9034	401 105 2102	MT-GLAZE 18K JA 1/16W
R9037	401 105 3307	MT-GLAZE 2.7K JA 1/16W
R9038	401 105 0603	MT-GLAZE 10K JA 1/16W
R9039	401 105 6605	MT-GLAZE 6.8K JA 1/16W
R9040	401 105 6605	MT-GLAZE 6.8K JA 1/16W
R9041	401 105 6001	MT-GLAZE 5.6K JA 1/16W
R9042	401 105 6605	MT-GLAZE 6.8K JA 1/16W
R9043	401 105 1600	MT-GLAZE 15K JA 1/16W
R9044	401 105 7404	MT-GLAZE 8.2K JA 1/16W
R9045	401 105 1600	MT-GLAZE 15K JA 1/16W
R9052	401 105 5301	MT-GLAZE 4.7K JA 1/16W
R9053	401 105 5301	MT-GLAZE 4.7K JA 1/16W
R9054	401 105 0603	MT-GLAZE 10K JA 1/16W
R9055	401 105 7909	MT-GLAZE 0 ZA 1/16W
R9056	401 105 1907	MT-GLAZE 180 JA 1/16W
R9057	401 105 0702	MT-GLAZE 100K JA 1/16W
R9058	401 105 0603	MT-GLAZE 10K JA 1/16W
R9060	401 105 8005	MT-GLAZE 1M JA 1/16W
R9063	401 105 3000	MT-GLAZE 220K JA 1/16W
R9066	401 105 6001	MT-GLAZE 5.6K JA 1/16W
R9067	401 105 4205	MT-GLAZE 33K JA 1/16W
R9069	401 105 1600	MT-GLAZE 15K JA 1/16W
R9071	401 105 1600	MT-GLAZE 15K JA 1/16W
R9072	401 105 2904	MT-GLAZE 22K JA 1/16W
R9073	401 105 6605	MT-GLAZE 6.8K JA 1/16W
R9074	401 105 4106	MT-GLAZE 3.3K JA 1/16W
R9075	401 105 6605	MT-GLAZE 6.8K JA 1/16W
R9076	401 105 4106	MT-GLAZE 3.3K JA 1/16W
R9077	401 105 6605	MT-GLAZE 6.8K JA 1/16W
R9078	401 105 4106	MT-GLAZE 3.3K JA 1/16W
R9079	401 105 6605	MT-GLAZE 6.8K JA 1/16W
R9081	401 105 5301	MT-GLAZE 4.7K JA 1/16W
R9082	401 105 6605	MT-GLAZE 6.8K JA 1/16W
R9083	401 105 5301	MT-GLAZE 4.7K JA 1/16W
R9084	401 105 4205	MT-GLAZE 33K JA 1/16W
R9085	401 105 4205	MT-GLAZE 33K JA 1/16W
R9086	401 105 4205	MT-GLAZE 33K JA 1/16W
R9087	401 105 4205	MT-GLAZE 33K JA 1/16W
R9088	401 105 0504	MT-GLAZE 1K JA 1/16W
R9089	401 105 0504	MT-GLAZE 1K JA 1/16W
R9091	401 105 1501	MT-GLAZE 1.5K JA 1/16W
R9092	401 105 1105	MT-GLAZE 12K JA 1/16W
R9093	401 105 6605	MT-GLAZE 6.8K JA 1/16W
R9094	401 105 6605	MT-GLAZE 6.8K JA 1/16W
R9095	401 105 0603	MT-GLAZE 10K JA 1/16W
R9097	401 105 1600	MT-GLAZE 15K JA 1/16W
R9100	401 105 7909	MT-GLAZE 0 ZA 1/16W
R9101	401 105 0603	MT-GLAZE 10K JA 1/16W
R9103	401 105 6407	MT-GLAZE 68 JA 1/16W
R9104	401 105 2805	MT-GLAZE 2.2K JA 1/16W
R9105	401 105 5301	MT-GLAZE 4.7K JA 1/16W
R9106	401 105 6001	MT-GLAZE 5.6K JA 1/16W
R9107	401 105 0504	MT-GLAZE 1K JA 1/16W
R9108	401 105 7909	MT-GLAZE 0 ZA 1/16W
R9110	401 105 2003	MT-GLAZE 1.8K JA 1/16W
R9117	401 105 6001	MT-GLAZE 5.6K JA 1/16W
R9118	401 105 1105	MT-GLAZE 12K JA 1/16W
R9119	401 105 6605	MT-GLAZE 6.8K JA 1/16W
R9121	401 105 1105	MT-GLAZE 12K JA 1/16W
R9122	401 105 6605	MT-GLAZE 6.8K JA 1/16W
R9123	401 105 7909	MT-GLAZE 0 ZA 1/16W
R9124	401 105 6001	MT-GLAZE 5.6K JA 1/16W

LOCATION	PARTS NO.	DESCRIPTION	
R9125	401 105 6605	MT-GLAZE	6.8K JA 1/16W
R9126	401 105 4106	MT-GLAZE	3.3K JA 1/16W
R9127	401 105 6001	MT-GLAZE	5.6K JA 1/16W
R9128	401 105 6605	MT-GLAZE	6.8K JA 1/16W
R9129	401 105 4106	MT-GLAZE	3.3K JA 1/16W
R9131	401 105 6100	MT-GLAZE	560K JA 1/16W
R9132	401 105 3406	MT-GLAZE	27K JA 1/16W
R9133	401 105 5301	MT-GLAZE	4.7K JA 1/16W
R9134	401 105 3406	MT-GLAZE	27K JA 1/16W
R9135	401 105 5301	MT-GLAZE	4.7K JA 1/16W
R9136	401 105 6100	MT-GLAZE	560K JA 1/16W
R9137	401 105 4809	MT-GLAZE	390K JA 1/16W
R9140	401 105 6100	MT-GLAZE	560K JA 1/16W
R9141	401 105 0603	MT-GLAZE	10K JA 1/16W
R9142	401 105 0603	MT-GLAZE	10K JA 1/16W
R9143	401 105 6605	MT-GLAZE	6.8K JA 1/16W
R9144	401 105 1105	MT-GLAZE	12K JA 1/16W
R9145	401 105 1105	MT-GLAZE	12K JA 1/16W
R9146	401 105 6605	MT-GLAZE	6.8K JA 1/16W
R9147	401 105 2102	MT-GLAZE	18K JA 1/16W
R9148	401 105 2904	MT-GLAZE	22K JA 1/16W
R9149	401 105 7602	MT-GLAZE	820K JA 1/16W
R9150	401 105 1709	MT-GLAZE	150K JA 1/16W
R9151	401 105 6100	MT-GLAZE	560K JA 1/16W
R9152	401 105 3000	MT-GLAZE	220K JA 1/16W
R9153	401 105 7909	MT-GLAZE	0 ZA 1/16W
R9154	401 105 2201	MT-GLAZE	180K JA 1/16W
R9155	401 105 0702	MT-GLAZE	100K JA 1/16W
R9156	401 105 6001	MT-GLAZE	5.6K JA 1/16W
R9157	401 105 5301	MT-GLAZE	4.7K JA 1/16W
R9158	401 105 0603	MT-GLAZE	10K JA 1/16W
R9159	401 105 4601	MT-GLAZE	3.9K JA 1/16W
R9161	401 105 1501	MT-GLAZE	1.5K JA 1/16W
R9162	401 105 8104	MT-GLAZE	56K JA 1/16W
R9163	401 105 0603	MT-GLAZE	10K JA 1/16W
R9164	401 105 0702	MT-GLAZE	100K JA 1/16W
R9165	401 105 2003	MT-GLAZE	1.8K JA 1/16W
R9166	401 105 2003	MT-GLAZE	1.8K JA 1/16W
R9167	401 105 5400	MT-GLAZE	47K JA 1/16W
R9168	401 105 1600	MT-GLAZE	15K JA 1/16W
R9169	401 105 6001	MT-GLAZE	5.6K JA 1/16W
R9170	401 114 0908	MT-GLAZE	3.3M JA 1/16W
R9171	401 105 1600	MT-GLAZE	15K JA 1/16W
R9172	401 105 1105	MT-GLAZE	12K JA 1/16W
R9173	401 105 5301	MT-GLAZE	4.7K JA 1/16W
R9174	401 105 0603	MT-GLAZE	10K JA 1/16W
R9177	401 105 7909	MT-GLAZE	0 ZA 1/16W
R9178	401 105 7909	MT-GLAZE	0 ZA 1/16W
R9179	401 105 6407	MT-GLAZE	68 JA 1/16W
R9180	401 105 7206	MT-GLAZE	82 JA 1/16W
R9181	401 105 4106	MT-GLAZE	3.3K JA 1/16W
R9182	401 105 4106	MT-GLAZE	3.3K JA 1/16W
R9183	401 105 4106	MT-GLAZE	3.3K JA 1/16W
R9185	401 105 2003	MT-GLAZE	1.8K JA 1/16W
R9186	401 105 6001	MT-GLAZE	5.6K JA 1/16W
R9187	401 105 7909	MT-GLAZE	0 ZA 1/16W
R9188	401 105 7909	MT-GLAZE	0 ZA 1/16W
R9191	401 105 8005	MT-GLAZE	1M JA 1/16W
R9192	401 105 8005	MT-GLAZE	1M JA 1/16W
R9193	401 105 8005	MT-GLAZE	1M JA 1/16W
R9194	401 105 8005	MT-GLAZE	1M JA 1/16W
R9195	401 105 8005	MT-GLAZE	1M JA 1/16W
R9196	401 105 8005	MT-GLAZE	1M JA 1/16W
R9197	401 105 8005	MT-GLAZE	1M JA 1/16W
R9198	401 105 8005	MT-GLAZE	1M JA 1/16W
R9199	401 105 7909	MT-GLAZE	0 ZA 1/16W
S9101	636 023 3546	SW,SLIDE	

LOCATION	PARTS NO.	DESCRIPTION
T9101	636 003 4488	HF COIL TRANS
T9102	636 021 3371	FILTER
VR901	636 019 7992	SVR 22K OHM
VR902	636 019 7992	SVR 22K OHM
VR903	636 019 7909	SVR 10K OHM
VR904	636 019 8029	SVR 3.3K OHM
VR905	636 019 8067	SVR 4.7K OHM
VR906	636 019 7909	SVR 10K OHM
VR907	636 019 7909	SVR 10K OHM
VR908	636 019 7909	SVR 10K OHM
VR909	636 019 7909	SVR 10K OHM
VR910	636 019 7909	SVR 10K OHM
VR911	636 019 7909	SVR 10K OHM
VR912	636 019 7893	SVR 1K OHM
VR913	636 019 7893	SVR 1K OHM
VR914	636 019 7893	SVR 1K OHM
VR915	636 019 7909	SVR 10K OHM
VR916	636 019 7909	SVR 10K OHM
VR917	636 019 8005	SVR 220K OHM
VR918	636 019 7909	SVR 10K OHM
VR919	636 019 8067	SVR 4.7K OHM
VR920	636 019 7909	SVR 10K OHM
VR921	636 019 7909	SVR 10K OHM
VR922	636 019 7909	SVR 10K OHM
VR923	636 019 7909	SVR 10K OHM
VR924	636 019 7909	SVR 10K OHM
VR926	636 019 7909	SVR 10K OHM
VR927	636 019 7909	SVR 10K OHM
X9101	636 020 4331	CRYSTAL UNIT,28.375MHZ

COMPL,CA-2

COMPL.NO. 636 025 1588

A9201 ⚠	636 026 0696	UNIT,DC-DC CONVERTOR		
C9201	403 045 7803	ELECT	220U M	25V
C9202	403 157 4202	CERAMIC	220P J	50V
C9204	403 114 5600	TA-SOLID	3.3U M	6.3V
C9205	403 155 1609	CERAMIC	33P J	50V
C9206	403 155 1609	CERAMIC	33P J	50V
C9207	403 113 3805	CERAMIC	1000P K	50V
C9208	403 113 3805	CERAMIC	1000P K	50V
C9209	403 157 4202	CERAMIC	220P J	50V
C9211	403 114 5600	TA-SOLID	3.3U M	6.3V
C9212	403 113 3805	CERAMIC	1000P K	50V
C9213	403 113 3805	CERAMIC	1000P K	50V
C9214	403 089 6206	TA-SOLID	4.7U M	4V
C9215	403 153 0901	ELECT	100U M	6.3V
C9216	403 164 0204	CERAMIC	0.1U Z	25V
C9217	403 113 3805	CERAMIC	1000P K	50V
C9218	403 114 5600	TA-SOLID	3.3U M	6.3V
C9219	403 163 9604	CERAMIC	0.033U Z	25V
C9221	403 157 7302	CERAMIC	6800P K	50V
C9222	403 114 5600	TA-SOLID	3.3U M	6.3V
C9223	403 158 7608	TA-SOLID	4.7U M	6.3V
C9225	403 164 0204	CERAMIC	0.1U Z	25V
C9226	403 114 5402	TA-SOLID	2.2U M	10V
C9227	403 164 0204	CERAMIC	0.1U Z	25V
C9228	403 091 0407	TA-SOLID	1U M	16V
C9231	403 164 0204	CERAMIC	0.1U Z	25V
C9232	403 157 6107	CERAMIC	330P J	50V
C9234	403 114 5600	TA-SOLID	3.3U M	6.3V

D9201	407 113 5609	DIODE DSH015-TL
D9202	407 057 8902	ZENER DIODE RD8.2MB2
D9203	407 057 8902	ZENER DIODE RD8.2MB2
D9204	407 113 5609	DIODE DSH015-TL

LOCATION	PARTS NO.	DESCRIPTION
D9205	407 113 5609	DIODE DSH015-TL
D9206	407 113 0505	DIODE 1SS302-TE85L
F9201 ⚠	404 040 5306	CERAMIC 47P M 100V
F9202 ⚠	404 040 5306	CERAMIC 47P M 100V
F9203 ⚠	404 040 5306	CERAMIC 47P M 100V
IC921	410 061 0404	IC MSM83C154V-618GS
IC922	409 152 6906	IC LC9123A-163
IC923	409 167 7806	IC LC89066M-T1
IC924	409 155 7405	IC TC4S69F(TE85L)
OR	409 180 1300	IC SC14S69FEL
IC925	409 155 7405	IC TC4S69F(TE85L)
OR	409 180 1300	IC SC14S69FEL
IC926	409 111 6008	IC BA225AF-T1
IC927	409 018 3704	IC LA6358M-T1
IC928	410 023 8806	IC MB3763PF-G-BND-TF
IC929	409 166 9801	IC NJM4560E-T1
Q9201	405 077 3402	TR 2SC4211-6-TL
Q9202	405 074 0701	TR IMX2-109
Q9203	405 077 3402	TR 2SC4211-6-TL
Q9204	405 077 2207	TR 2SA1622-6-TL
Q9205	405 077 2207	TR 2SA1622-6-TL
Q9206	405 077 3402	TR 2SC4211-6-TL
Q9207	405 077 3402	TR 2SC4211-6-TL
Q9208	405 077 3402	TR 2SC4211-6-TL
Q9209	405 078 7003	TR 2SC4397-TL
Q9211	405 077 3402	TR 2SC4211-6-TL
Q9212	405 078 7003	TR 2SC4397-TL
Q9213	405 079 2007	TR FMG8-T99
Q9214	405 069 5902	TR FMA5-T99
Q9216	405 086 4209	TR HN1C01F-TE85L
Q9217	405 074 0701	TR IMX2-109
Q9218	405 074 0701	TR IMX2-109
Q9219	405 077 3402	TR 2SC4211-6-TL
R9201	401 105 5301	MT-GLAZE 4.7K JA 1/16W
R9202	401 105 0504	MT-GLAZE 1K JA 1/16W
R9203	401 105 4007	MT-GLAZE 330 JA 1/16W
R9204	401 105 2805	MT-GLAZE 2.2K JA 1/16W
R9205	401 105 7404	MT-GLAZE 8.2K JA 1/16W
R9206	401 105 4007	MT-GLAZE 330 JA 1/16W
R9207	401 105 0504	MT-GLAZE 1K JA 1/16W
R9208	401 113 3207	MT-GLAZE 4.7 KA 1/16W
R9209	401 105 6605	MT-GLAZE 6.8K JA 1/16W
R9211	401 105 0603	MT-GLAZE 10K JA 1/16W
R9212	401 113 6406	MT-GLAZE 5.1K JA 1/16W
R9213	401 105 2805	MT-GLAZE 2.2K JA 1/16W
R9214	401 105 6605	MT-GLAZE 6.8K JA 1/16W
R9215	401 105 3000	MT-GLAZE 220K JA 1/16W
R9217	401 113 3207	MT-GLAZE 4.7 KA 1/16W
R9218	401 105 5301	MT-GLAZE 4.7K JA 1/16W
R9219	401 105 0504	MT-GLAZE 1K JA 1/16W
R9220	401 105 8104	MT-GLAZE 56K JA 1/16W
R9221	401 105 0603	MT-GLAZE 10K JA 1/16W
R9222	401 105 6605	MT-GLAZE 6.8K JA 1/16W
R9223	401 105 0603	MT-GLAZE 10K JA 1/16W
R9224	401 105 0603	MT-GLAZE 10K JA 1/16W
R9225	401 105 4106	MT-GLAZE 3.3K JA 1/16W
R9226	401 105 6605	MT-GLAZE 6.8K JA 1/16W
R9227	401 105 0603	MT-GLAZE 10K JA 1/16W
R9228	401 105 7909	MT-GLAZE 0 ZA 1/16W
R9229	401 105 6001	MT-GLAZE 5.6K JA 1/16W
R9231	401 105 0702	MT-GLAZE 100K JA 1/16W
R9232	401 105 5509	MT-GLAZE 470K JA 1/16W
R9233	401 105 6001	MT-GLAZE 5.6K JA 1/16W
R9234	401 105 7602	MT-GLAZE 820K JA 1/16W
R9235	401 105 4304	MT-GLAZE 330K JA 1/16W

LOCATION	PARTS NO.	DESCRIPTION
R9236	401 105 4106	MT-GLAZE 3.3K JA 1/16W
R9237	401 105 2805	MT-GLAZE 2.2K JA 1/16W
R9238	401 105 4700	MT-GLAZE 39K JA 1/16W
R9239	401 105 5202	MT-GLAZE 470 JA 1/16W
R9241	401 105 7909	MT-GLAZE 0 ZA 1/16W
R9242	401 105 1600	MT-GLAZE 15K JA 1/16W
R9243	401 105 1709	MT-GLAZE 150K JA 1/16W
R9244	401 105 7503	MT-GLAZE 82K JA 1/16W
R9245	401 105 4700	MT-GLAZE 39K JA 1/16W
R9246	401 105 0603	MT-GLAZE 10K JA 1/16W
R9247	401 105 0603	MT-GLAZE 10K JA 1/16W
R9248	401 105 1600	MT-GLAZE 15K JA 1/16W
R9251	401 105 5400	MT-GLAZE 47K JA 1/16W
R9252	401 105 1600	MT-GLAZE 15K JA 1/16W
R9253	401 105 4601	MT-GLAZE 3.9K JA 1/16W
R9254	401 105 1105	MT-GLAZE 12K JA 1/16W
R9255	401 105 7404	MT-GLAZE 8.2K JA 1/16W
R9256	401 105 7909	MT-GLAZE 0 ZA 1/16W
R9257	401 105 7909	MT-GLAZE 0 ZA 1/16W
R9258	401 105 6704	MT-GLAZE 680K JA 1/16W
R9262	401 105 0603	MT-GLAZE 10K JA 1/16W
R9263	401 105 6001	MT-GLAZE 5.6K JA 1/16W
R9264	401 105 7909	MT-GLAZE 0 ZA 1/16W
R9265	401 105 0306	MT-GLAZE 10 JA 1/16W
R9266	401 105 1600	MT-GLAZE 15K JA 1/16W
R9267	401 105 0306	MT-GLAZE 10 JA 1/16W
R9268	401 105 0603	MT-GLAZE 10K JA 1/16W
R9269	401 105 7909	MT-GLAZE 0 ZA 1/16W
R9272	401 105 8104	MT-GLAZE 56K JA 1/16W
R9273	401 105 8104	MT-GLAZE 56K JA 1/16W
R9274	401 105 8104	MT-GLAZE 56K JA 1/16W
R9275	401 105 4601	MT-GLAZE 3.9K JA 1/16W
R9276	401 105 5509	MT-GLAZE 470K JA 1/16W
R9277	401 105 3000	MT-GLAZE 220K JA 1/16W
R9278	401 105 0702	MT-GLAZE 100K JA 1/16W
R9279	401 105 0702	MT-GLAZE 100K JA 1/16W
R9281	401 105 6001	MT-GLAZE 5.6K JA 1/16W
R9282	401 105 0603	MT-GLAZE 10K JA 1/16W
R9291	401 105 0504	MT-GLAZE 1K JA 1/16W
R9299	401 105 0603	MT-GLAZE 10K JA 1/16W
T9201	636 003 4600	HF COIL TRANS
COMPL,VF-1		
COMPL.NO.	636 026 8036	
C0001	403 135 6808	ELECT 1U M 50V
C0003	403 163 8003	ELECT 33U M 10V
C0004	403 067 9809	CERAMIC 0.1U K 25V
C0005	403 163 8003	ELECT 33U M 10V
C0006	403 167 6005	CERAMIC 0.22U M 16V
C0007	403 073 1200	CERAMIC 0.033U K 50V
C0008	403 022 8205	CERAMIC 33P J 50V
C0009	403 067 9809	CERAMIC 0.1U K 25V
C0010	403 134 9008	ELECT 10U M 16V
C0011	403 167 6104	CERAMIC 3900P K 100V
C0012	403 159 8109	ELECT 100U M 6.3V
C0013	403 159 8109	ELECT 100U M 6.3V
C0014 ⚠	403 167 6302	CERAMIC 2200P K 1K
C0015	403 167 6203	CERAMIC 0.022U K 100V
C0016 ⚠	403 167 6302	CERAMIC 2200P K 1K
C0017	403 167 7002	ELECT 4.7U M 50V
C0018	403 093 7206	OS-SOLID 22U M 10V
D0001	407 069 4909	DIODE DSB010-TA
D0003	407 066 8207	DIODE SB02-09CP
D0004	407 101 3303	DIODE ESJ04-02
IC001	409 174 0708	IC AN2512S-(T1)

LOCATION	PARTS NO.	DESCRIPTION
L0002 ⚠	636 024 3057	COIL,LINEARITY
L0003 ⚠	636 024 3019	COIL,INDUCTOR 150UH
Q0001 ⚠	405 047 3500	TR 2SC3646-S-TD
Q0002	405 043 8905	TR 2SA1257-G5
Q0004	405 092 4200	TR 2SA1576-R-T106
R0001	401 037 5707	MT-GLAZE 100K JA 1/10W
R0002	401 038 7403	MT-GLAZE 510K JA 1/10W
R0003	401 037 7909	MT-GLAZE 1.5K JA 1/10W
R0004	401 037 5202	MT-GLAZE 100 JA 1/10W
R0005	401 038 6000	MT-GLAZE 43K JA 1/10W
R0006	401 090 2002	MT-GLAZE 3.9 JA 1/10W
R0007	401 037 5400	MT-GLAZE 1K JA 1/10W
R0008	401 037 5400	MT-GLAZE 1K JA 1/10W
R0009	401 037 8203	MT-GLAZE 1.5M JA 1/10W
R0010	401 038 9209	MT-GLAZE 6.8K JA 1/10W
R0011	401 038 6406	MT-GLAZE 4.7K JA 1/10W
R0012	401 039 0403	MT-GLAZE 8.2K JA 1/10W
R0013	401 038 3900	MT-GLAZE 3.3M JA 1/10W
R0014	401 037 5806	MT-GLAZE 1M JA 1/10W
R0015	401 037 8203	MT-GLAZE 1.5M JA 1/10W
R0016 ⚠	401 037 6902	MT-GLAZE 120K JA 1/10W
R0017	401 037 5806	MT-GLAZE 1M JA 1/10W
R0018	401 037 5400	MT-GLAZE 1K JA 1/10W
T0001 ⚠	636 024 3026	TRANS,FLYBACK
VR002	636 024 3064	VR,CEMI 220 OHM
VR003	636 024 3071	VR,CEMI 33K OHM
VR004	636 000 3941	VR
VR005	636 000 3927	VR
COMPL,TC-1		
COMPL.NO.	636 026 7244	
S9301	636 023 3539	SW,SLIDE
S9302	636 023 3553	SW,PUSH
S9303	636 023 3553	SW,PUSH
S9304	636 023 3553	SW,PUSH
S9305	636 023 3553	SW,PUSH
COMPL,TC-4		
COMPL.NO.	636 025 8860	
	636 026 6513	PAD
C9401	403 155 4204	CERAMIC 15P J 50V
C9403	403 113 3805	CERAMIC 1000P K 50V
C9404	403 113 3805	CERAMIC 1000P K 50V
C9405	403 155 1807	CERAMIC 0.01U K 25V
C9406	403 164 0204	CERAMIC 0.1U Z 25V
C9407	403 114 5600	TA-SOLID 3.3U M 6.3V
C9408	403 164 0204	CERAMIC 0.1U Z 25V
CT941	636 026 4014	CAP,TRIM 30P-W
IC941	409 183 2007	IC CXD1159Q
R9401	401 105 0702	MT-GLAZE 100K JA 1/16W
R9402	401 105 0603	MT-GLAZE 10K JA 1/16W
R9403	401 105 8203	MT-GLAZE 68K JA 1/16W
R9404	401 105 8005	MT-GLAZE 1M JA 1/16W
R9405	401 105 0405	MT-GLAZE 100 JA 1/16W
R9406	401 105 0504	MT-GLAZE 1K JA 1/16W
VC941	407 099 2906	VARACTOR DI 1SV200-11TLC
X9401	636 000 4955	CRYSTAL,17.734476MHZ

SCHEMATIC DIAGRAM
&
PRINTED WIRING BOARD

MODEL **VEM-S1P** (SANYO)
FVC-P1000 (FISHER)

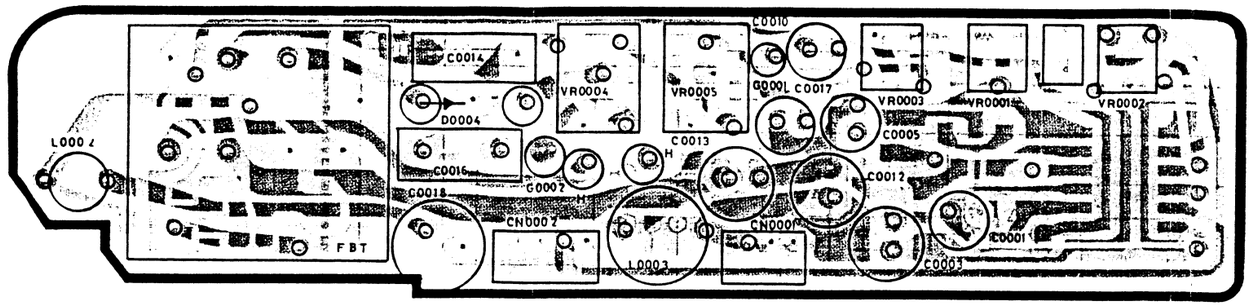
CONTENTS

OVERALL WIRING DIAGRAM, SEMICONDUCTORS	Ⓐ
P.C.B. CA-1	Ⓑ
P.C.B. CA-2	Ⓒ
P.C.B. VF-1 P.C.B. TB-1 P.C.B. TB-2	Ⓓ
P.C.B. VP-1	Ⓔ
P.C.B. VD-1	Ⓕ Ⓖ
P.C.B. SV-1	Ⓗ
P.C.B. SY-1	Ⓘ
P.C.B. TC-1 P.C.B. TC-2 P.C.B. TC-3 P.C.B. TC-4	Ⓙ

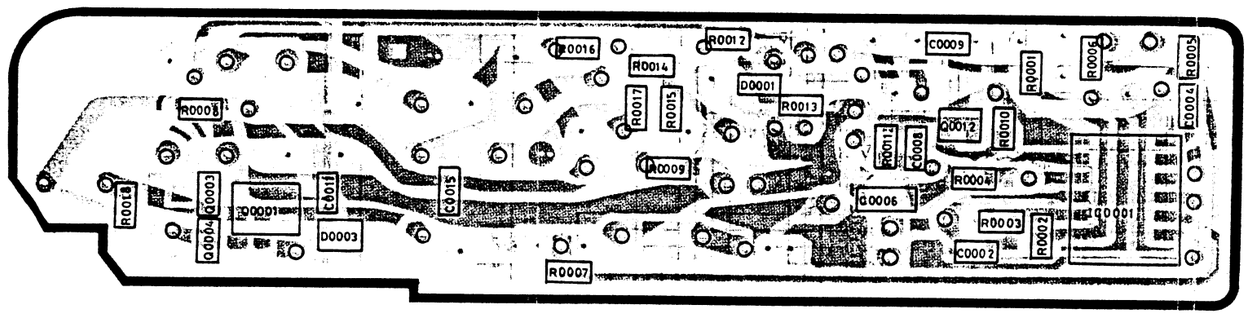
- ——: +B bus.
- Voltage values: Relative to ground, measured with a DC digital multimeter
- The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.
- All resistors are in ohms.
- All capacitors are in μF (p: pF).
- All coils are in mH (μ: μH).
- Cautions

Pattern face side (Solder Side)	:	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side (Component Side)	:	Parts on the parts face side seen from the pattern face are indicated.

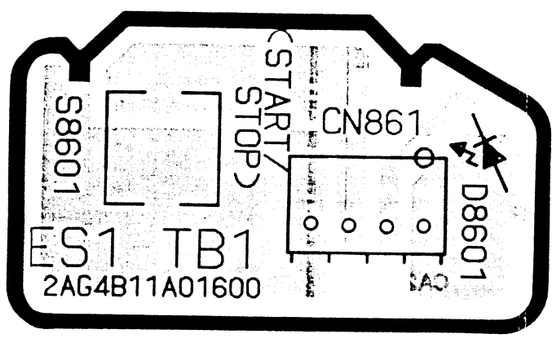
VF-1 BOARD SIDE A



VF-1 BOARD SIDE B



TB-1 BOARD



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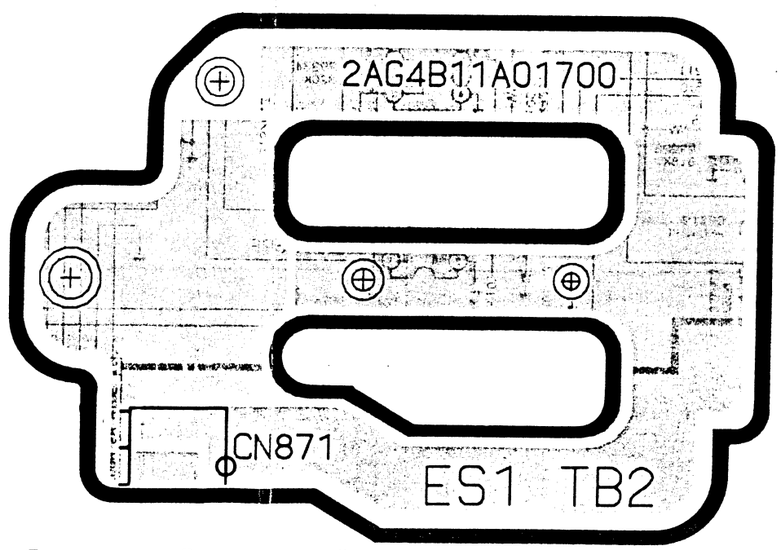
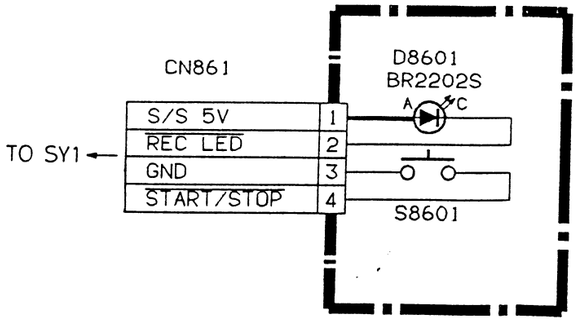


TB-1 CIRCUIT



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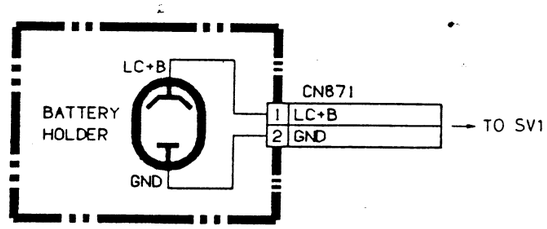
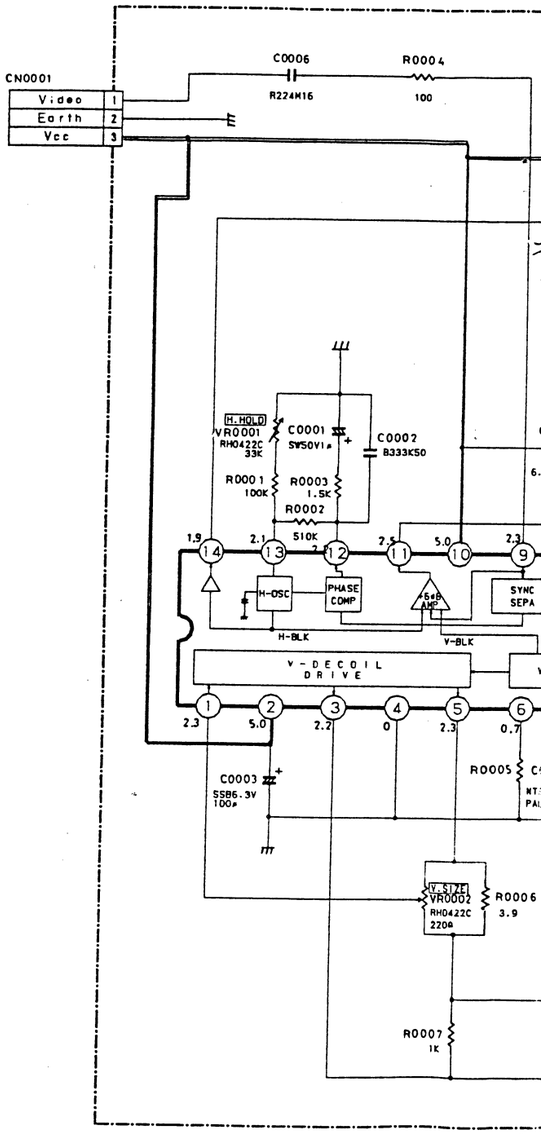




VF-1 CIRCUIT

UIT

D8601
BR2202S
A C

S8601

JIT

1871
B
TO SV1

CN0001
Video 1
Earth 2
Vcc 3

C0006 R224M16
R0004 100
L0003 ELF0708150#
C0012 SSB6.3V100#
C0013 SC 6.3V 15#
R0008 1K
Q0003 2SC4081BR
C0010 SW16V10#
Q0001
Q0004 2SC3646S
2SA1576FR
D0003 SB02-09CP
C0011 WRS 392K 100
R0018 1K
L0002 ZHSL8506W (250A ø10A)
T0001 FBT
D0004 ESJ04-02
C0014
DE0905 B222K1K
FOCUS VR0004 RH0622C1M
R0017 1M
R0014 1M
R0015 1.5M
R0009 1.5M
BRIGHT VR0005 RH0622C470K
C0015 W5R223K100
R0016 120K
C0016 DE0905 B222K1K

H.HOLD VR0001 RH0422C 33K
C0001 SW50V1#
C0002 B333K50
R0001 100K
R0003 1.5K
R0002 510K
C0005 SC 6.3V 33#
R0011 4.7K
C0008 CH330K50
Q0002 2SA1257GS
R0010 6.8K
CONTRAST VR0003 RHD422C33K
C0009 B104K25
D0001 DSB010
R0013 3.3K
R0012 8.2K
C0017 SSB50V4.7#
C0018 SC10WV22#F

IC0001 AN2512S
H-OSC
PHASE COMP
6+8 AMP
SYNC SEPA
T-SYNC SEPA
H-BLK
V-BLK
V-DECOIL DRIVE
V-OSC
1.9 2.1 2.5 5.0 2.1 0
2.3 5.0 2.2 0 2.3 0.7 2.2

C0003 SSB6.3V 100#
R0005 C0004 B104K25 NTSC 33K PAL 43K
V.SIZE VR0002 RHD422C 220Ω R0006 3.9
R0007 1K

CN0002
1 2 3 4
V V H H
V V H H
1 2 3 4
DY

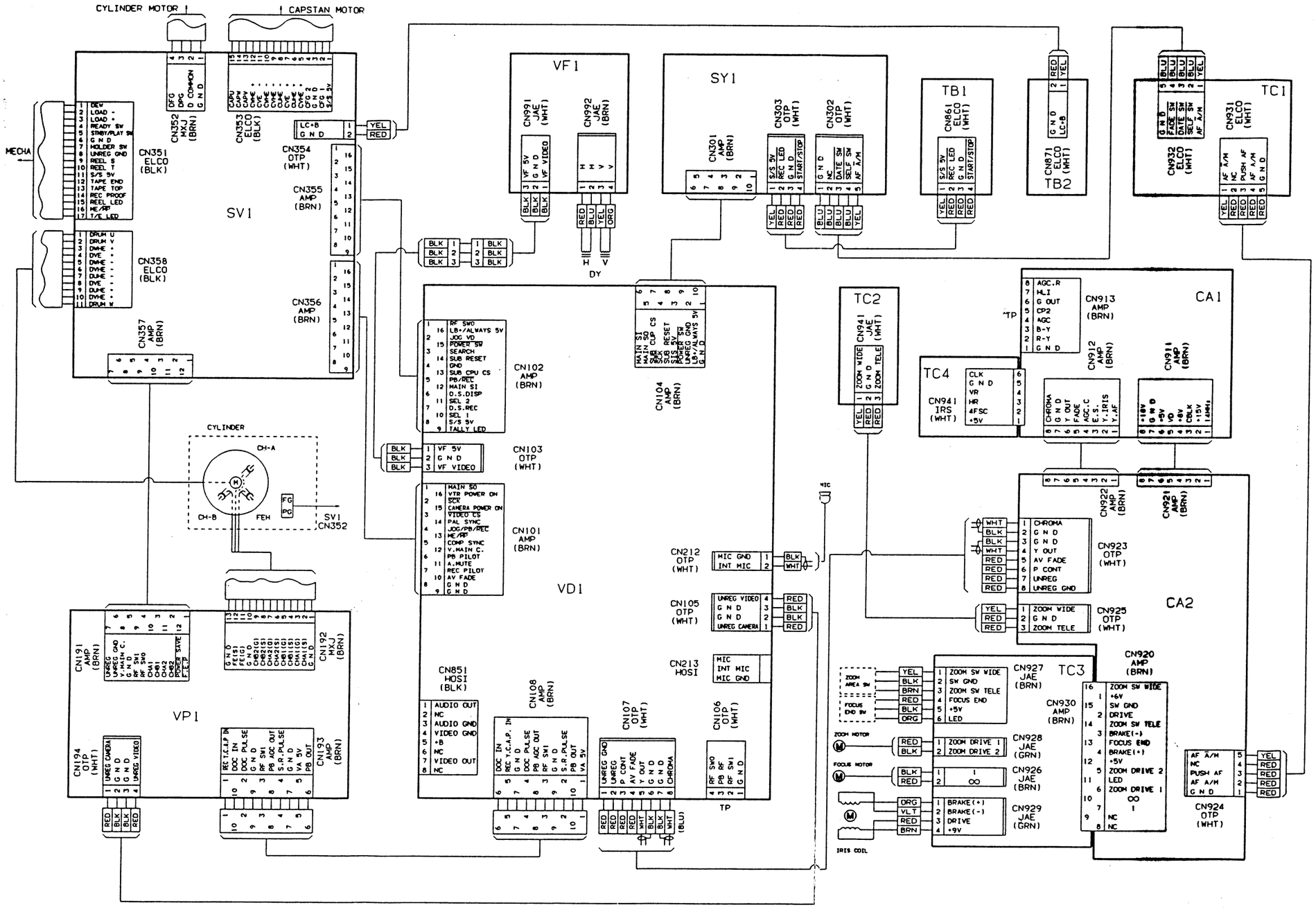
CN0003
7 6 5 4 3 1
H G2 G1 G3 H G4

CRT C1M52P45
G4 H H G2 G3 G1

*a: REC MODE

12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27

OVERALL WIRING



SEMICONDUCTORS

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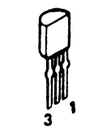
LVC550C



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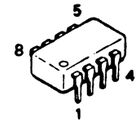
MB3763PF
NJM4560E



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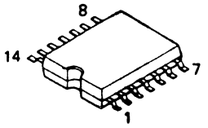
LA7264M



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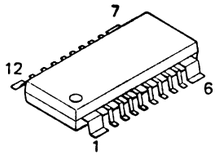
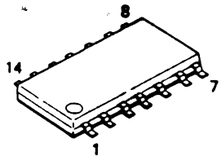


LC4001BM
LVA519F
RTC4503



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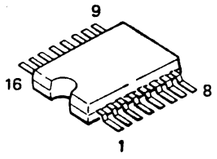
MN4053BF
TC4053BF



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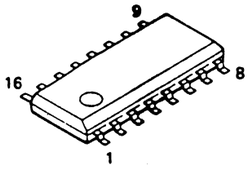
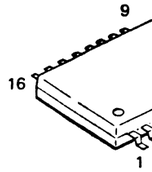


CX20



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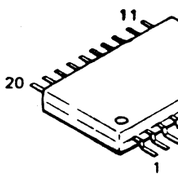
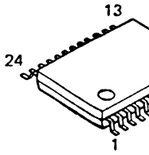


CXA120



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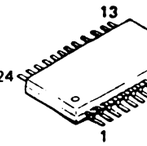

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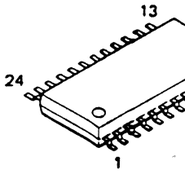

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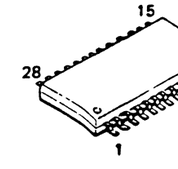
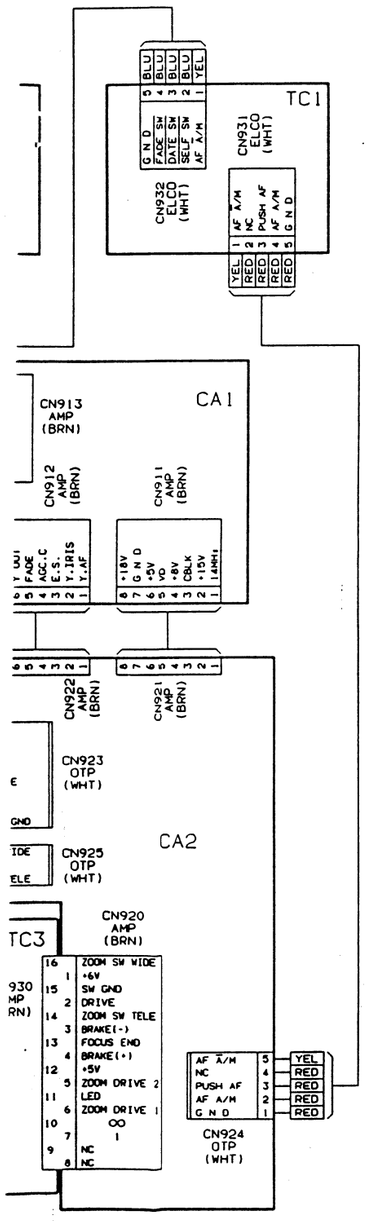


SEMICONDUCTORS



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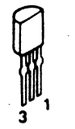

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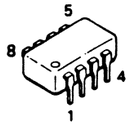

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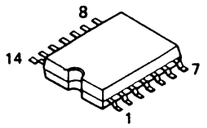

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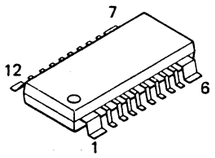

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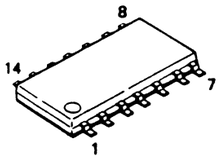

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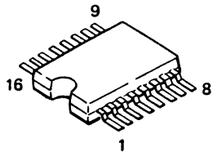

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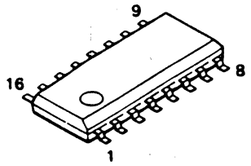

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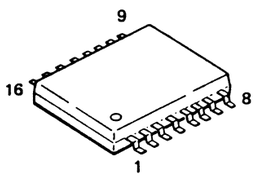

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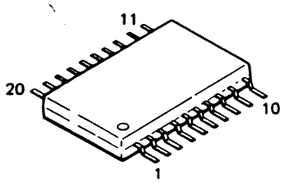

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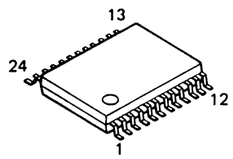

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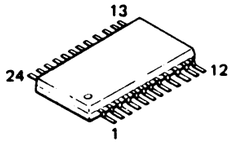

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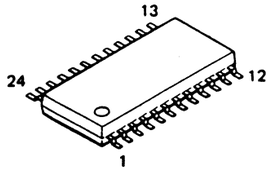

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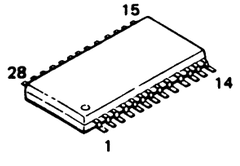

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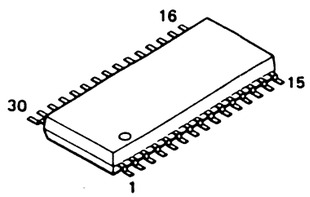

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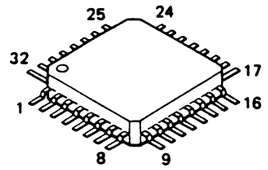

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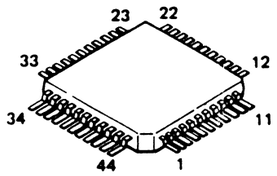

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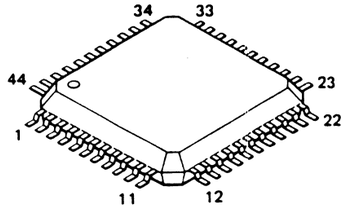

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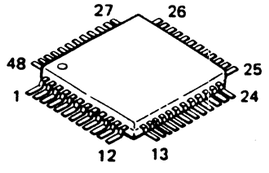

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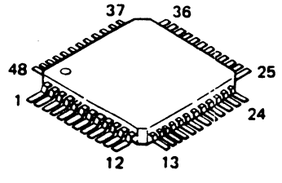

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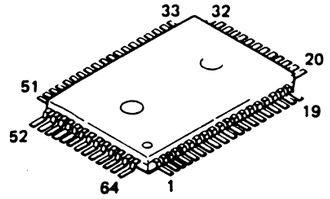

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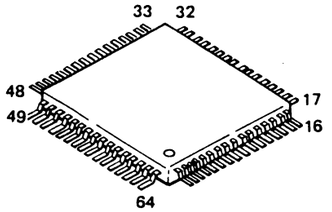

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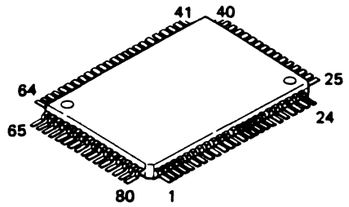

TC7S00F
SC14S69F
SC14S81F
TC4S66F
TC4S69F
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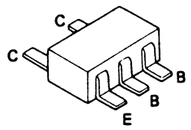

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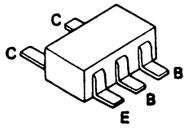

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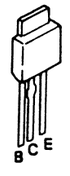

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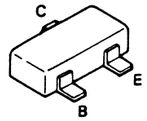

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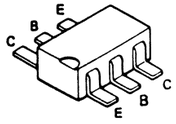
FMA5
FMG2
FMW1
FMG5

HN1C01F
IMX1
IMX2



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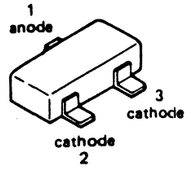

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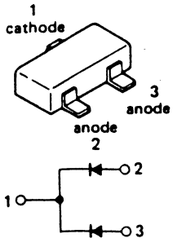
DCB015



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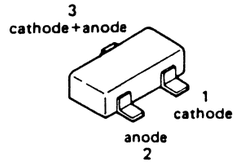

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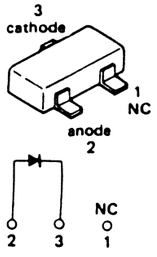
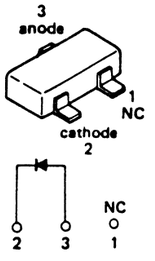
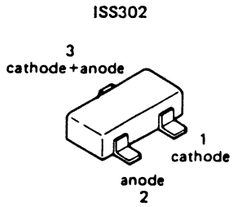
DSH015
DSB015



RD2.7M-B1
RD13M-B1
RD8.2M-B2



ISS302



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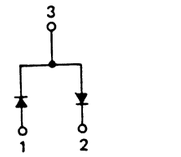
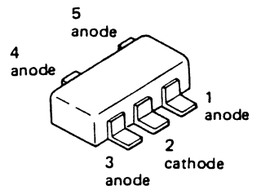
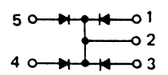


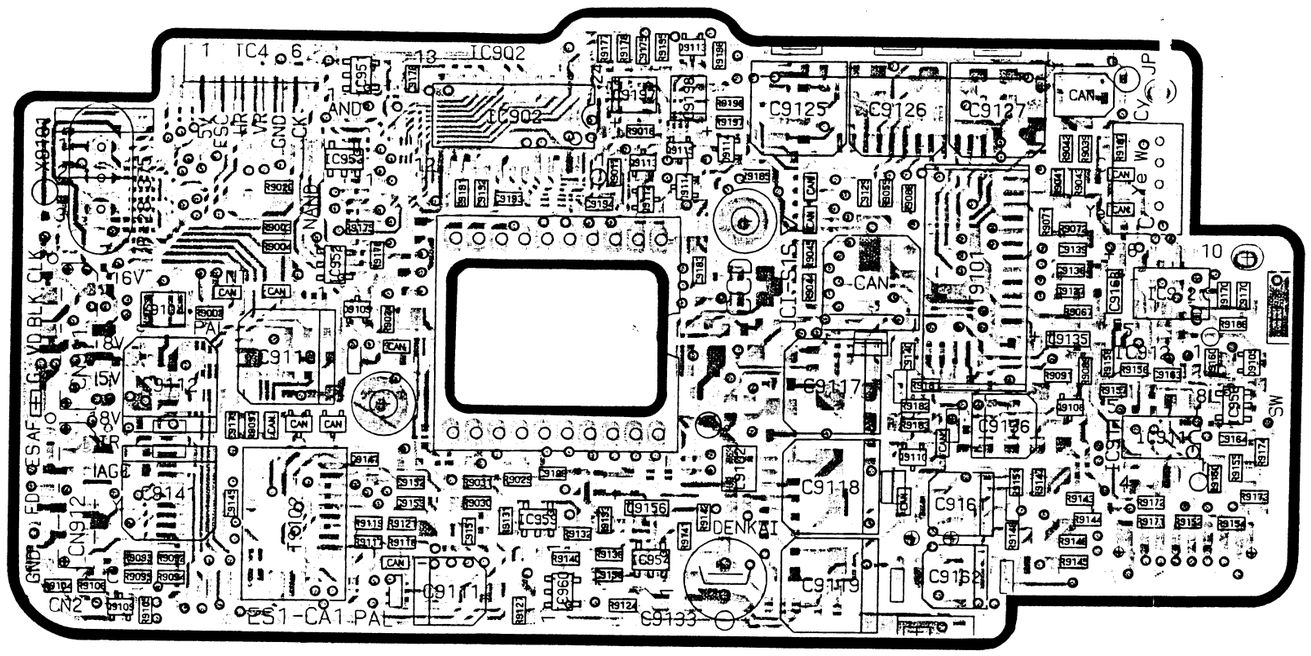
ISS309



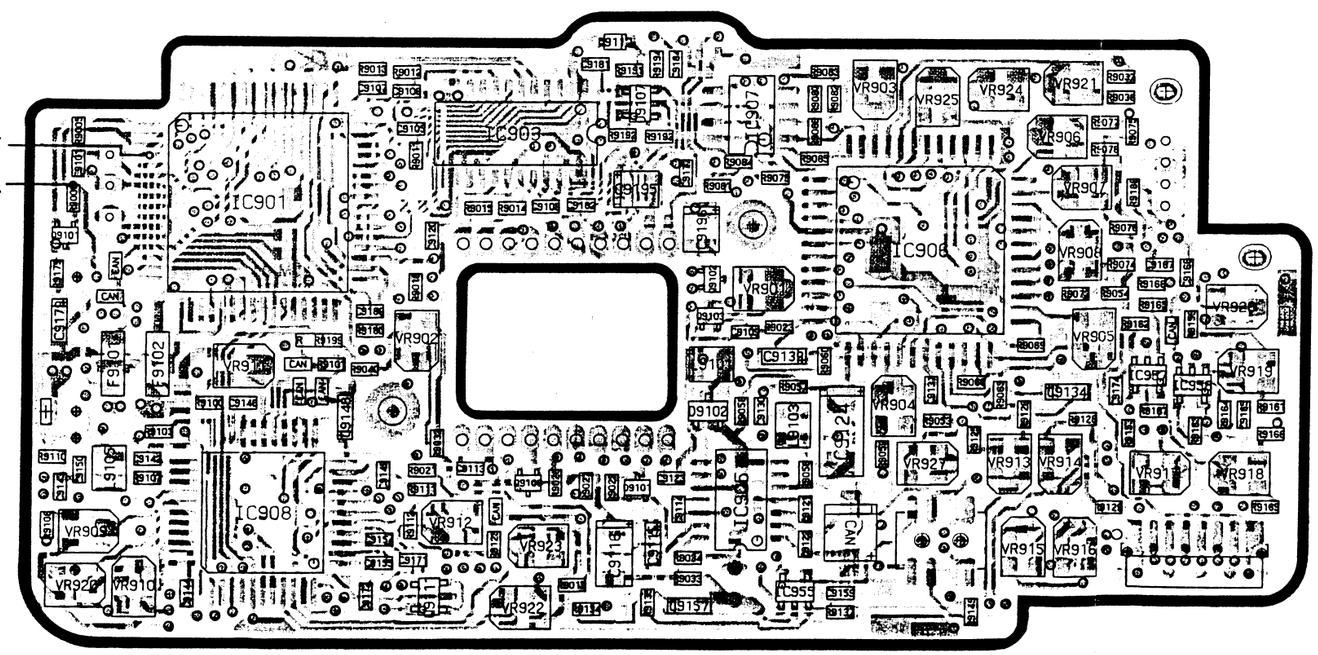


A

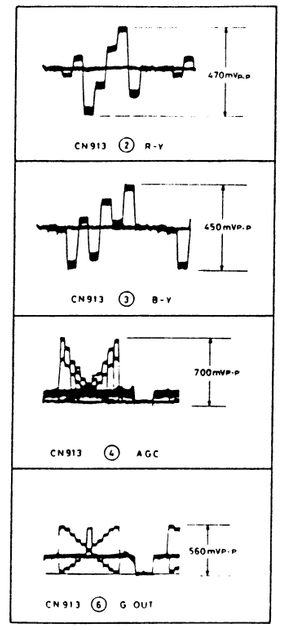
CA-1 BOARD SIDE A



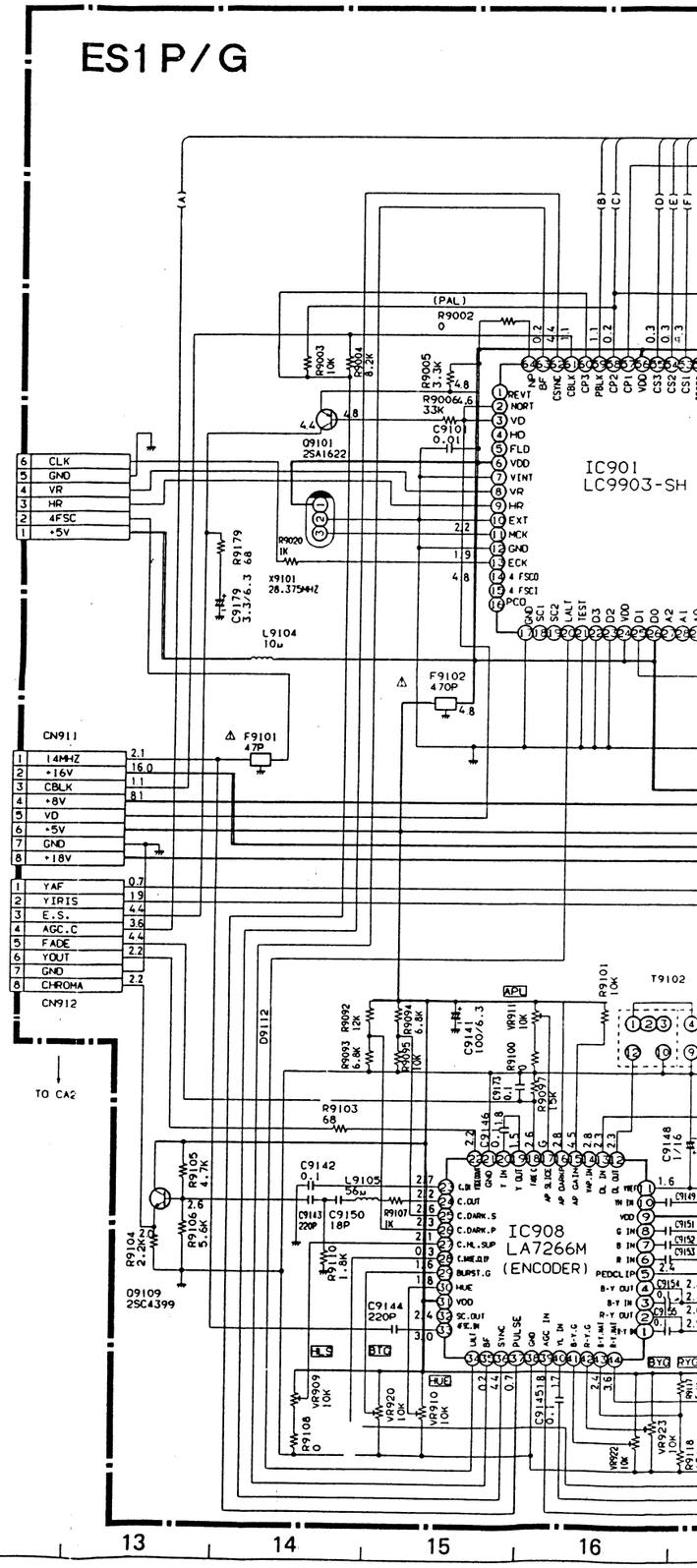
CA-1 BOARD SIDE B



CA-1 BOARD (CAMERA)



ES1P/G



D (CAMERA)

470mVP-P

450mVP-P

700mVP-P

560mVP-P

CA-1 CIRCUIT

ES1P/G

IC901 LC9903-SH

IC902 LB8901M (V.DRIVER)

IC903 LB8902M (H.DRIVER)

IC904 LC9967(CCD)

IC905 LA7264M (CDS)

IC906 LA7262M (PROCESS)

IC907 LA6358M

IC908 LA7266M (ENCODER)

IC911 LA6358M

IC912 LA6601M

IC951 TC4S81F

IC952 TC7S00F

IC953 TC7S00F

IC954 NJM2107F

IC955 NJM2107F

IC956 TC4S66F

IC957 NJM2107F

IC958 NJM2406F

IC959 NJM2107F

IC960 NJM2107F

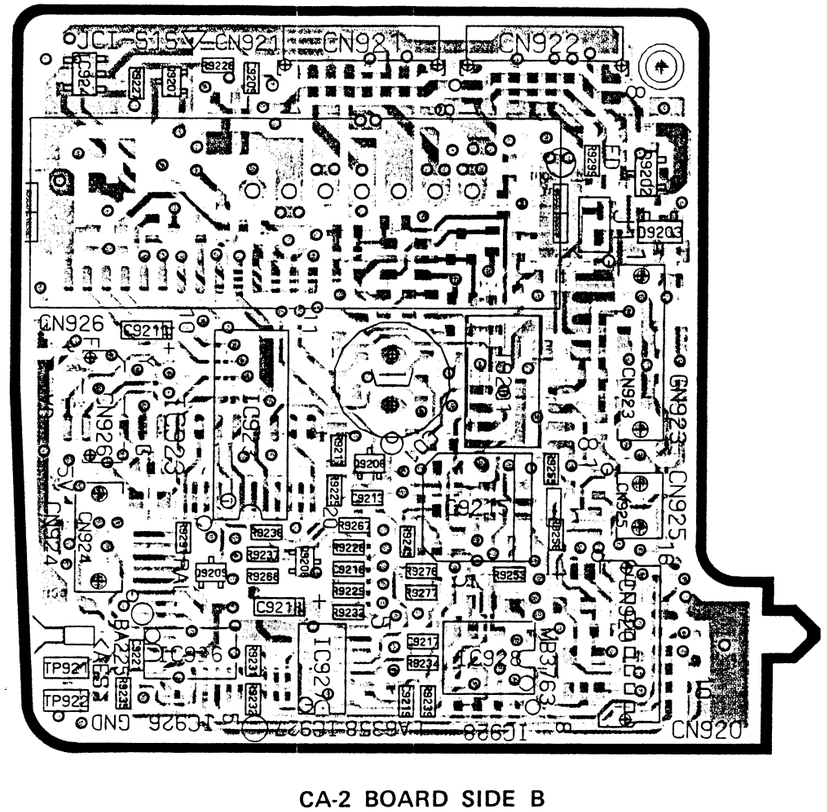
CA1

*a: REC MODE

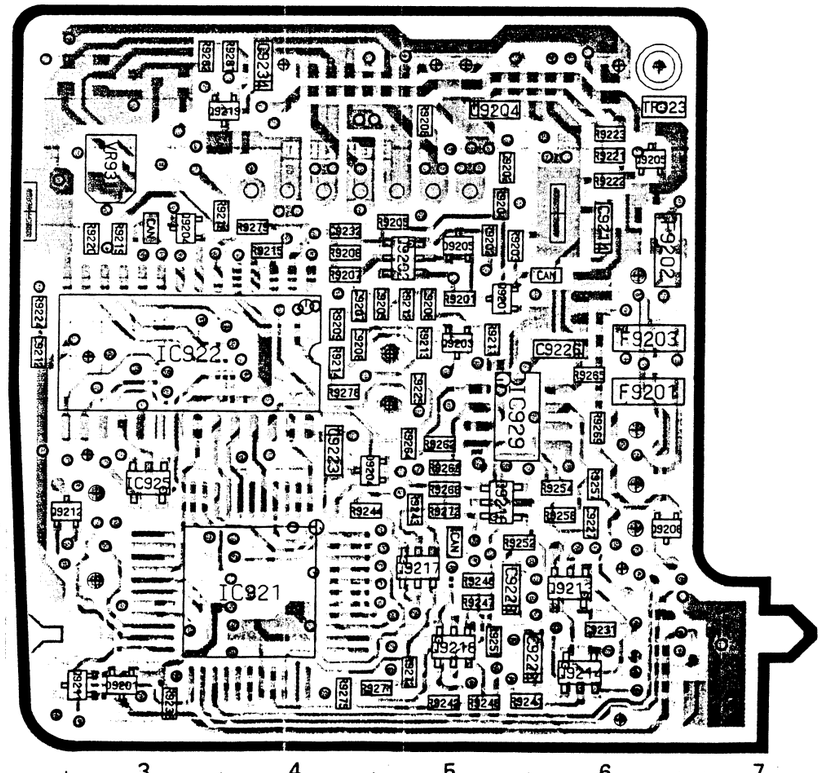
TO CA2

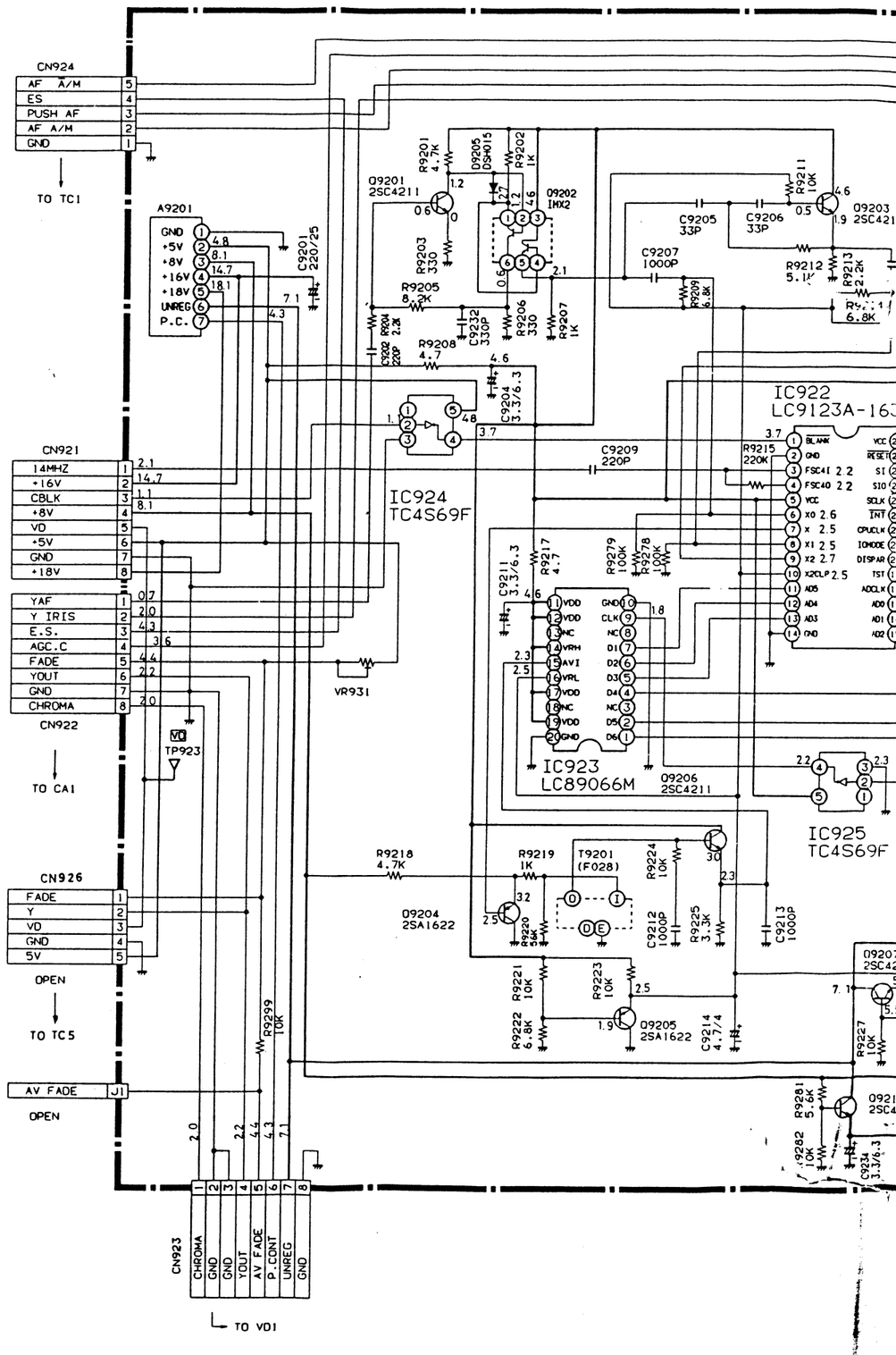
11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27

CA-2 BOARD SIDE A



CA-2 BOARD SIDE B





CA-2 CIRCUIT

OKI
*80/85
83C154V618
9200A7V1

IC929
NJM4560E

IC922
LC9123A-163

IC924
TC4S69F

IC923
LC89066M

IC925
TC4S69F

IC926
BA225AF

IC927
LA6358M

IC928
MB3763PF

IC921
MSM8051FGS

CN923
CHROMA
GND
GND
YOUT
AV FADE
P. CONT
UNREG
GND
TO VD1

CN920
ZOOM SW WIDE
SW GND
ZOOM SW TELE
FOCUS END
+5V
LED
NC
NC
ZOOM DRIVE 1
ZOOM DRIVE 2
BRAKE(+)
BRAKE(-)
DRIVE(-)
DRIVE(+)
TO TC3

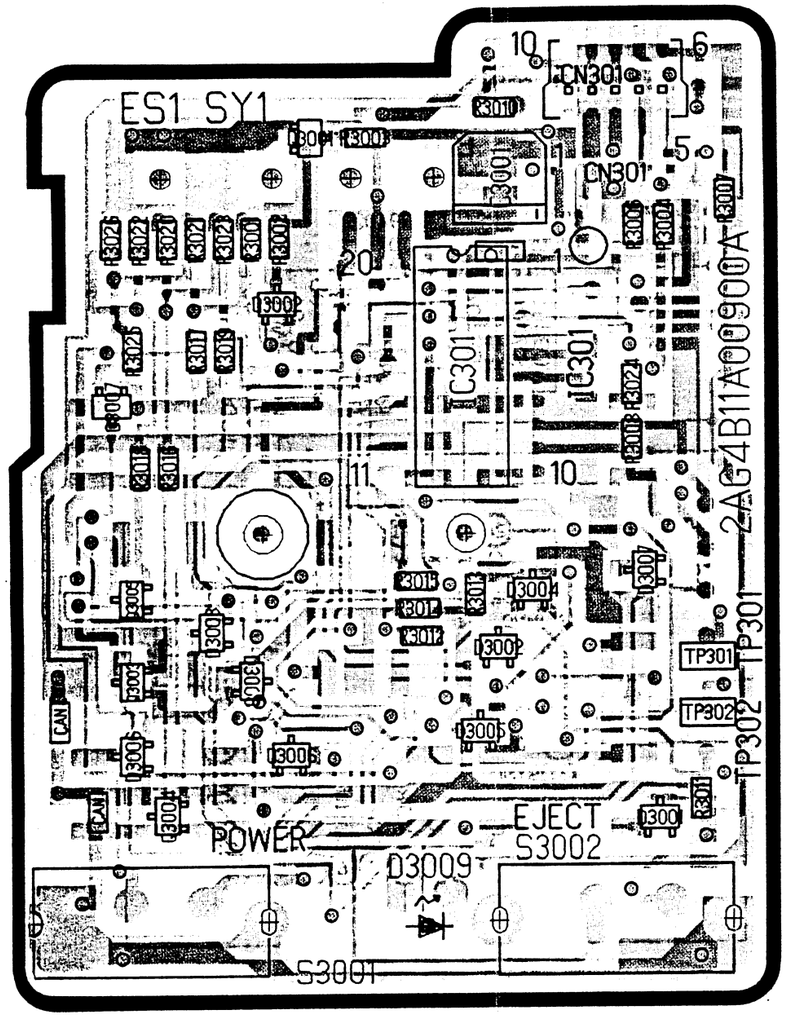
CN925
ZOOM WIDE
GND
ZOOM TELE
TO TC2

CA2

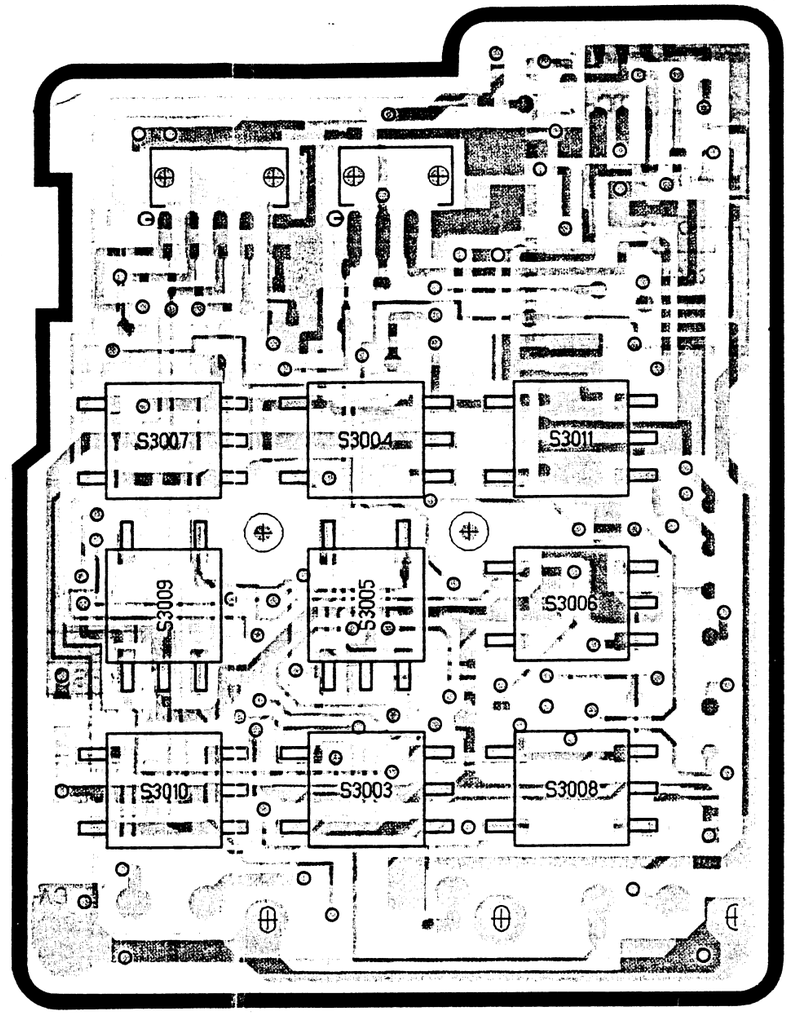
*a: REC MODE

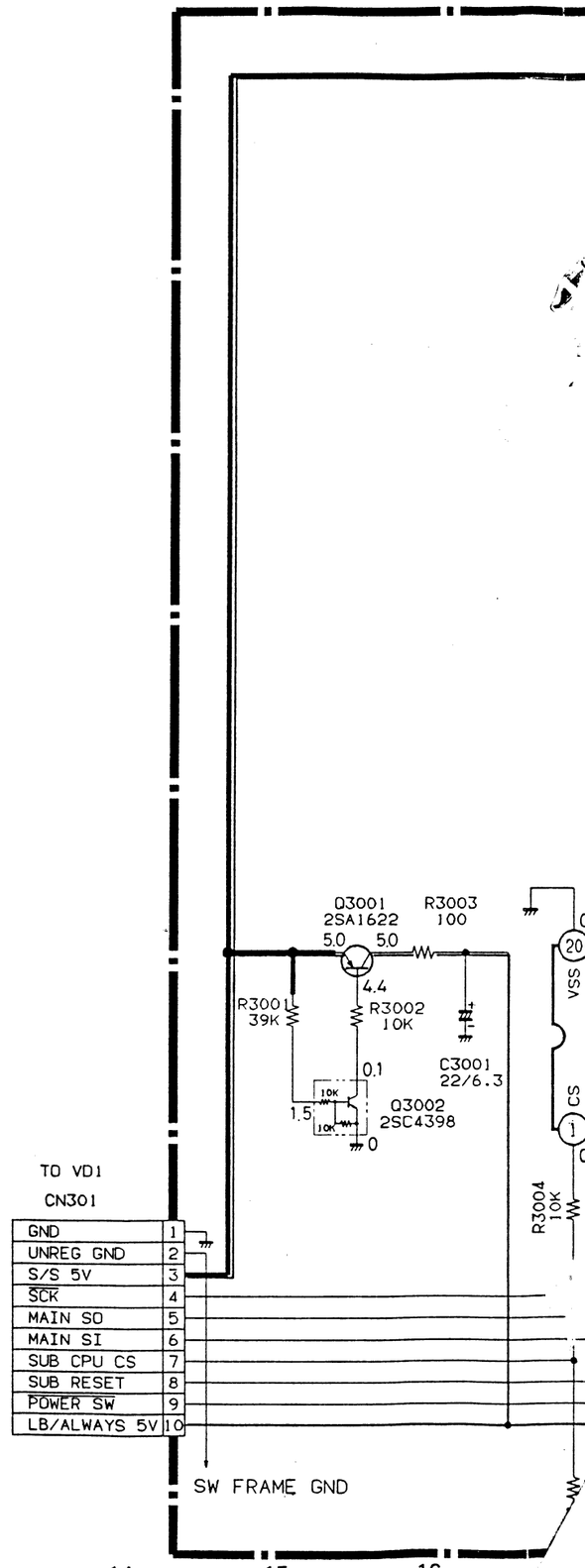
11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27

SY-1 BOARD SIDE A

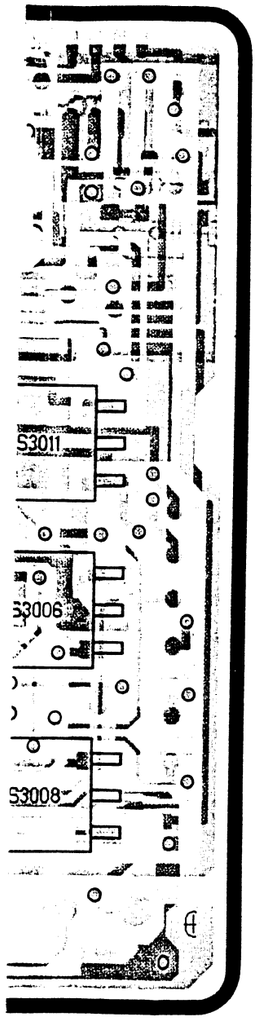


SY-1 BOARD SIDE B





SY-1 CIRCUIT



S3002 SSSTO 11 EJECT
S3005 STOP
S3008 FF
S3010 REW
S3003 PLAY
S3006 REC
S3009 STILL
S3004 MEMO ON/OFF
S3007 RESET
S3011 TIME ADJ
D3001 DCG015 1/2
D3002 DCG015 1/2
D3003 DCG015 1/2
D3004 DCG015 1/2
D3005 DCG015 1/2
D3006 DCG015 1/2
D3007 DCG015 1/2
D3008 DCG015
Q3001 2SA1622
Q3002 2SC4398
Q3003 2SA1622
Q3004 2SA1622
Q3005 2SA1622
Q3006 2SA1622
Q3007 2SA1622
R3001 39K
R3002 10K
R3003 100
R3004 10K
R3006 100K
R3007 10K
R3008 150K
R3010 100K
R3011 470
R3012 47K
R3013 47K
R3014 47K
R3015 47K
R3016 47K
R3017 47K
R3018 47K
R3019 47K
R3020 100K
R3021 100K
R3022 100K
R3023 100K
R3024 470
R3025 47K
C3001 22/6.3
TP301 TP302
ADJ
D3009 SLP-881C-51
S3001 SSSTO 11 POWER
IC301 μPD7554G-574
VSS SCAN OUT D SCAN OUT C SCAN OUT B SCAN OUT A SCAN IN D SCAN IN C SCAN IN B SCAN IN A RESET
CS SCK SO SI POWER LED REC LED NC CL2 CL1 VDD
SW FRAME GND

TO TB1 CN303

1	S/S 5V
2	REC LED
3	GND
4	START/STOP

→ TO TB1

TO TC1 CN302

1	GND
2	FADE SW
3	DATE SW
4	SELF SW
5	AF AUTO/MANU

TO VD1 CN301

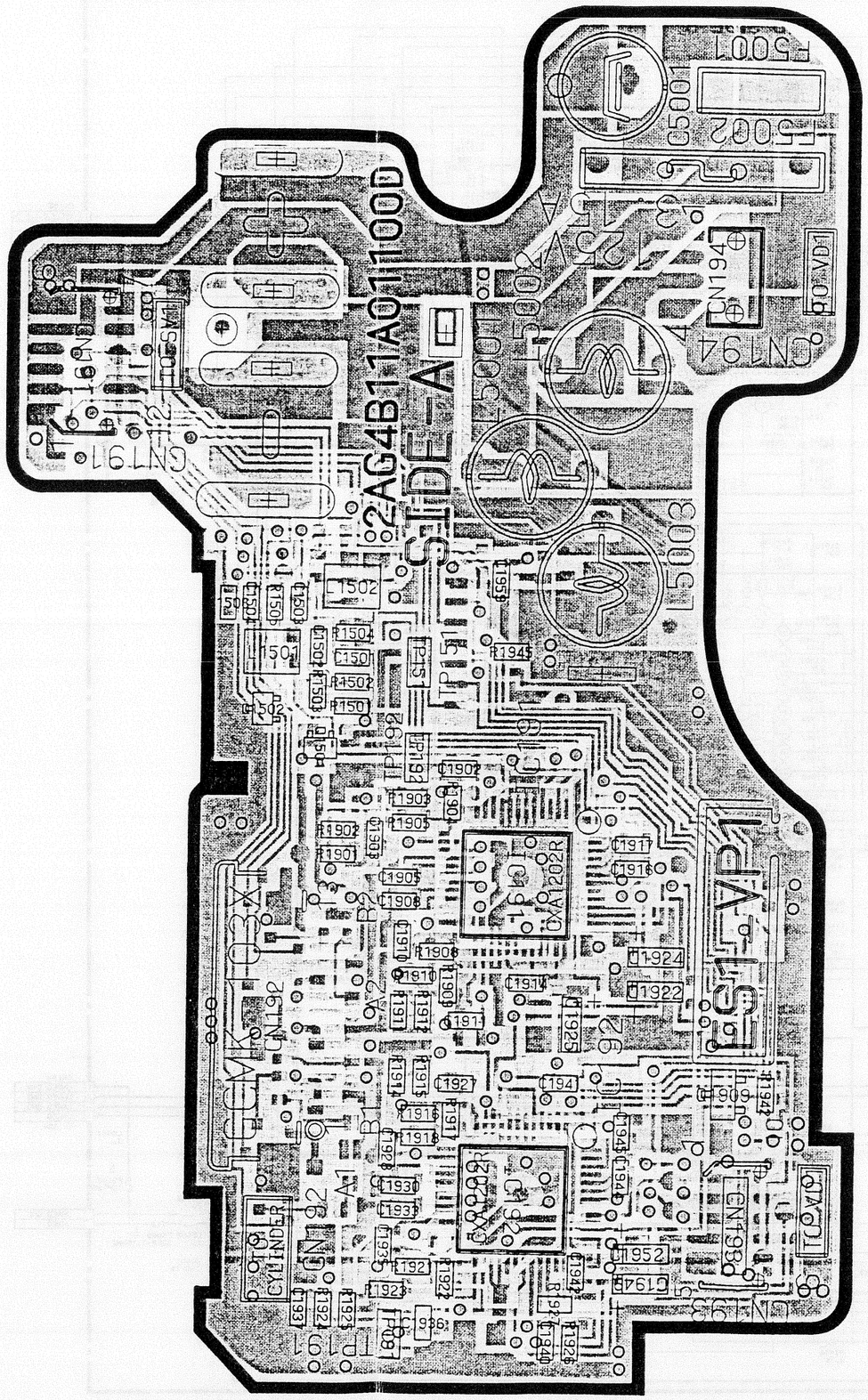
GND	1
UNREG GND	2
S/S 5V	3
SCK	4
MAIN SO	5
MAIN SI	6
SUB CPU CS	7
SUB RESET	8
POWER SW	9
LB/ALWAYS 5V	10

SY1

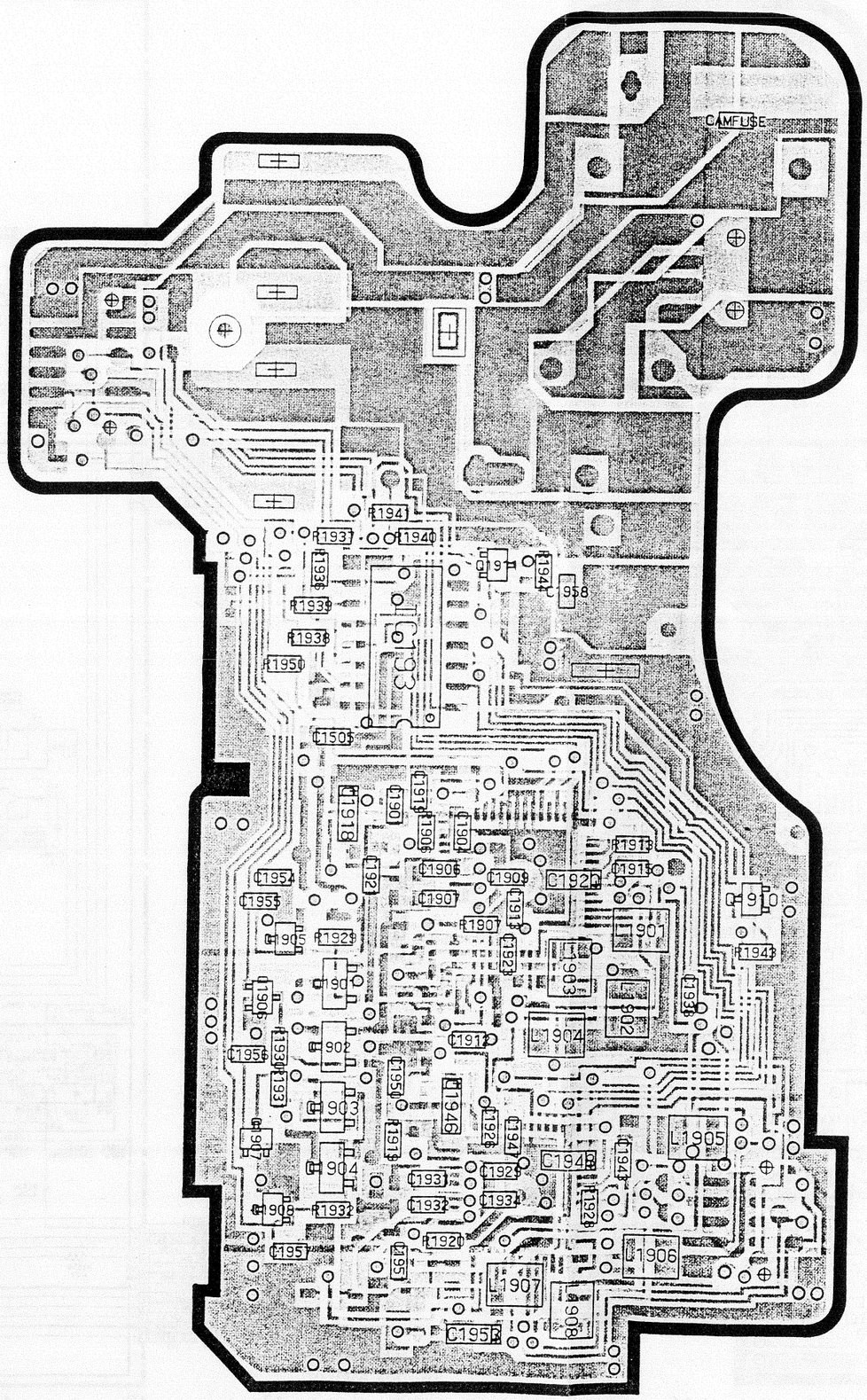
*a: REC MODE
(b): PB MODE

12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27

VP-1 BOARD SIDE A

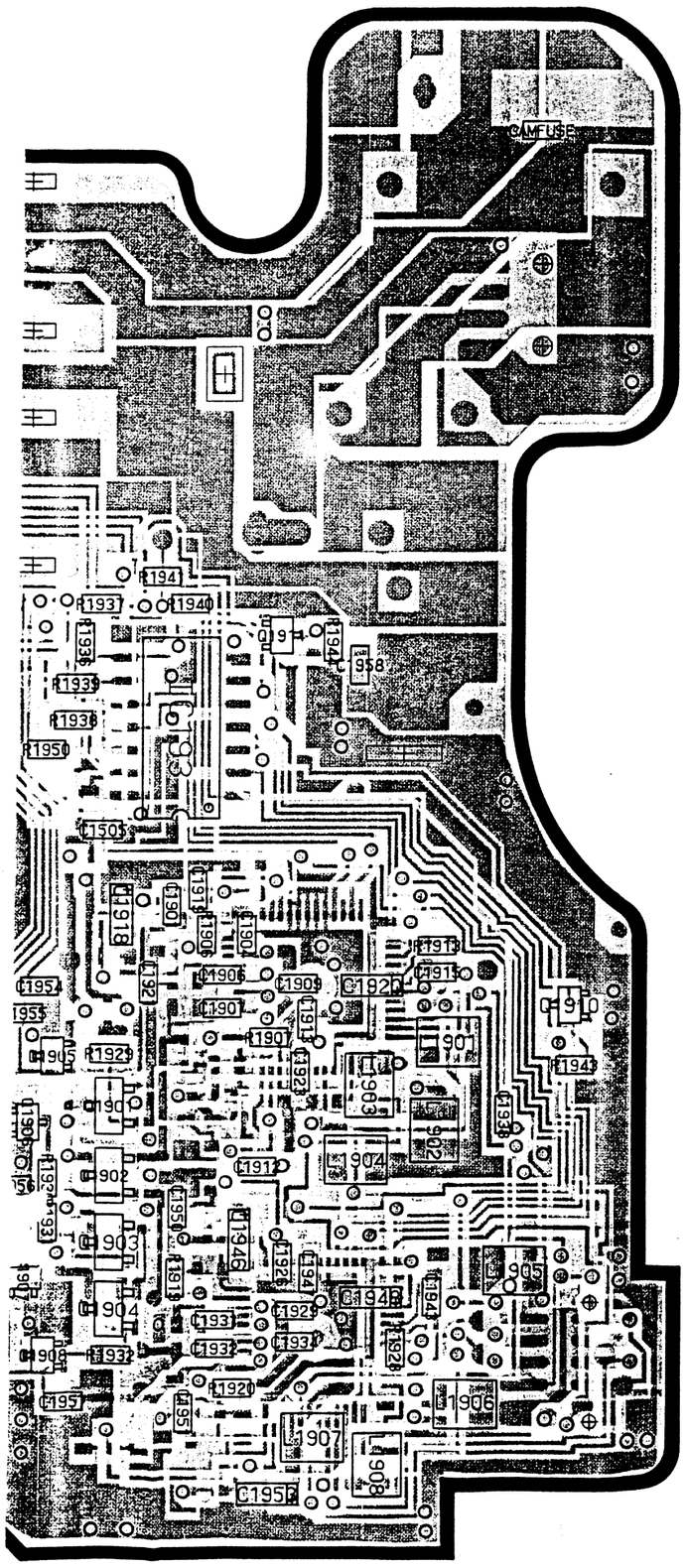


VP-1 BOARD SIDE B



*a: REC MODE
(b): PB MODE

VP-1 BOARD SIDE B

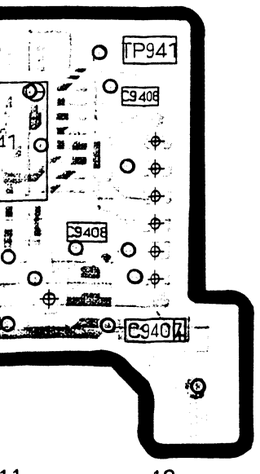

CAMFUSE
C10
C194
R193
R194
C193
R193
R195
C195
R195
C150
C191
C190
C191
C190
C191
C190

CUIT

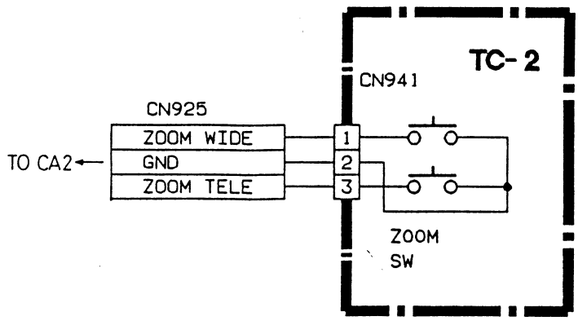
16	ZOOM SW WIDE
15	SW GND
14	ZOOM SW TELE
13	FOCUS END
12	+5V
11	LED
10	∞
9	NC
8	NC
7	1
6	ZOOM DRIVE 1
5	ZOOM DRIVE 2
4	BRAKE(+)
3	BRAKE(-)
2	DRIVE(-)
1	DRIVE(+)

CN920

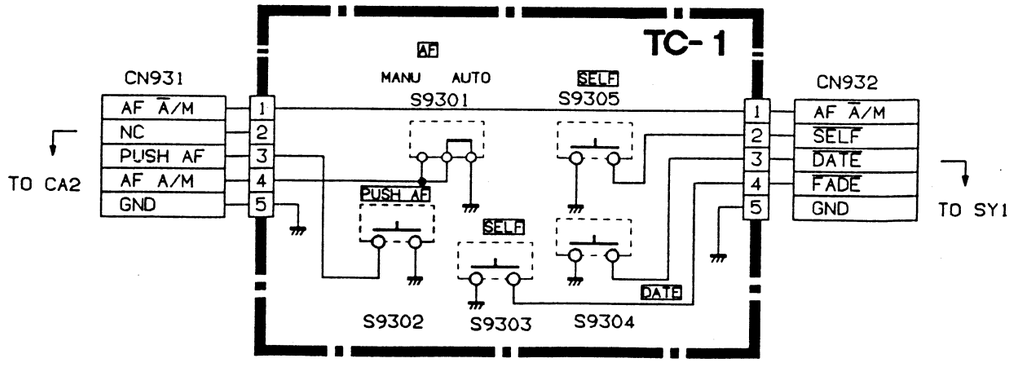
BOARD SIDE B



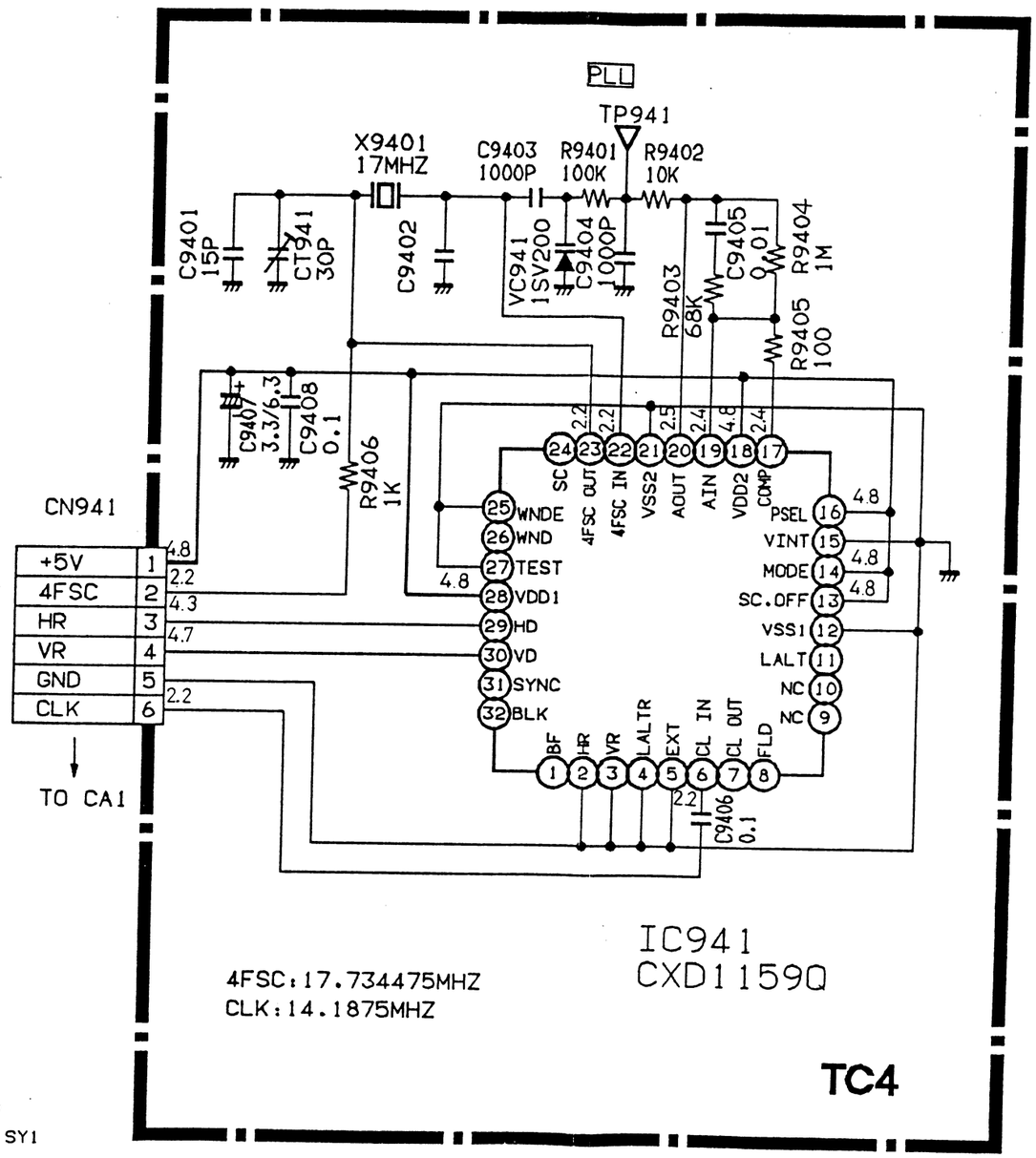
TC-2 CIRCUIT



TC-1 CIRCUIT



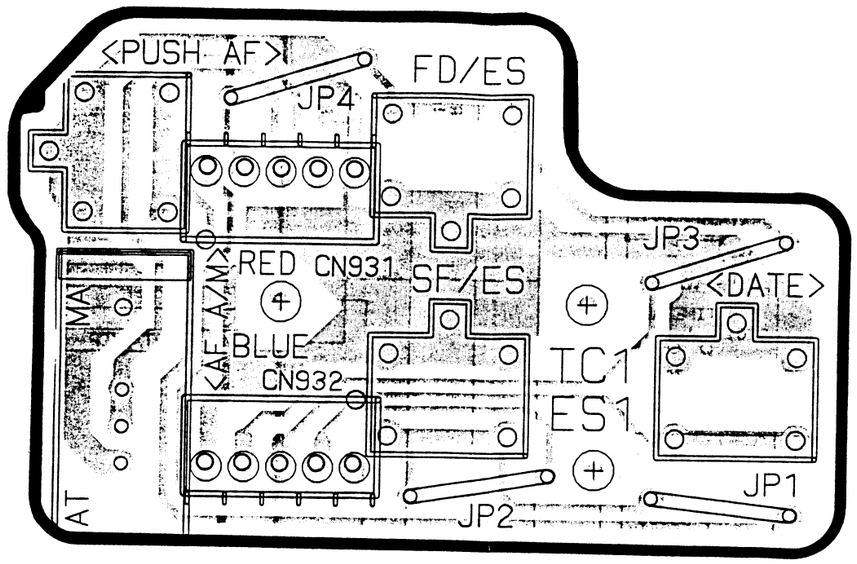
TC-4 CIRCUIT



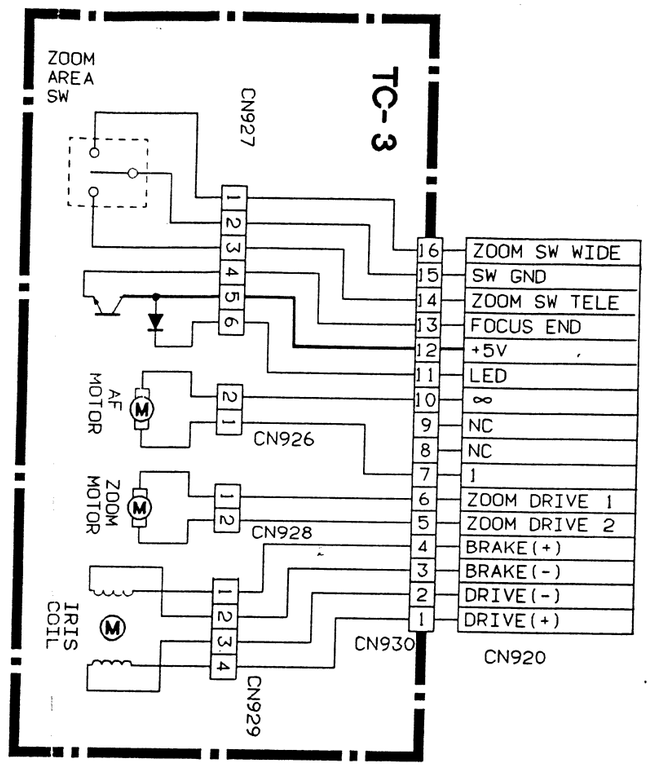
*a: REC MODE

11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27

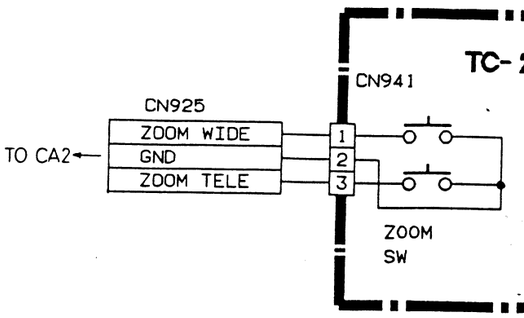
TC-1 BOARD



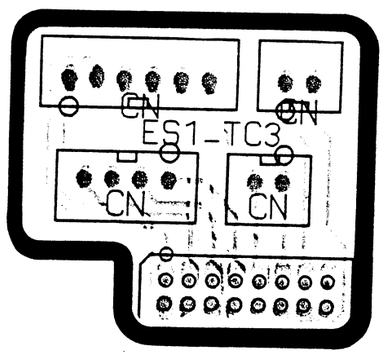
TC-3 CIRCUIT



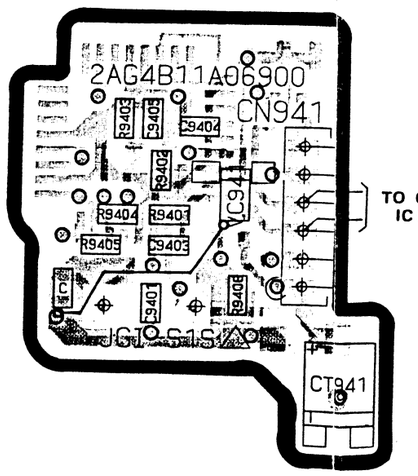
TC-2 CIRCUIT



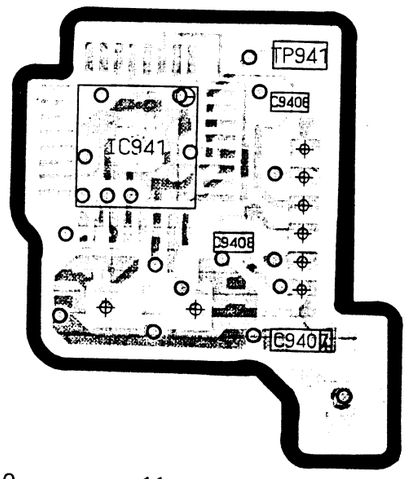
TC-3 BOARD



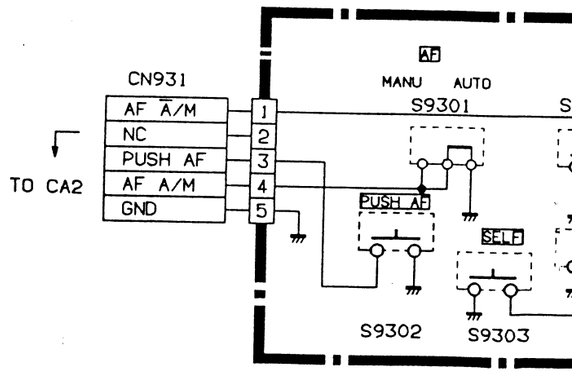
TC-4 BOARD SIDE A



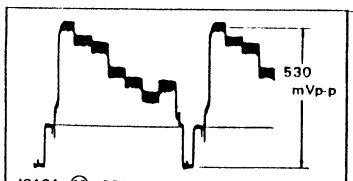
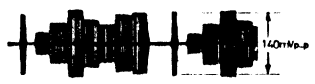
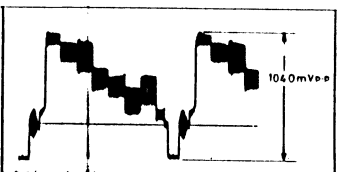
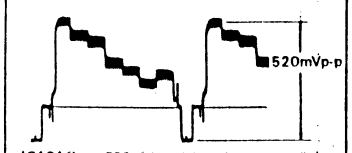
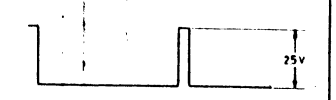
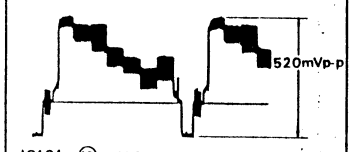
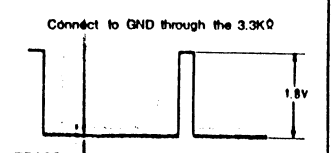
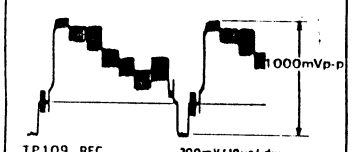
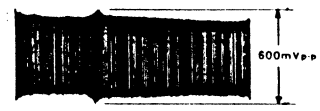
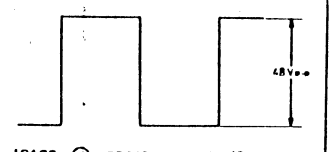
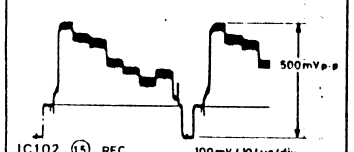
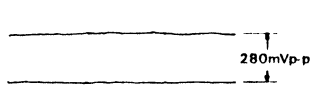
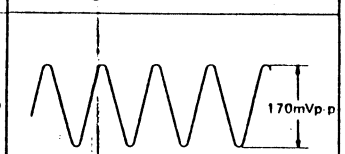
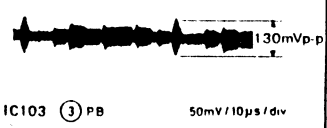
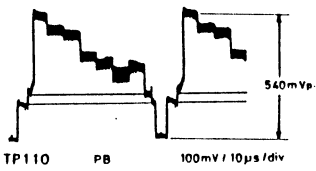
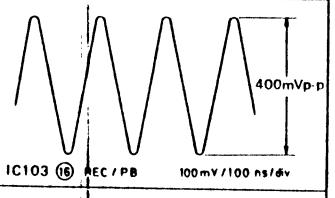
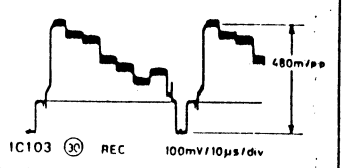
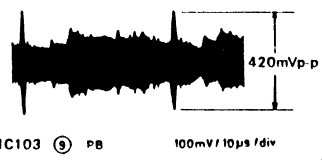
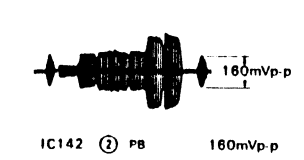
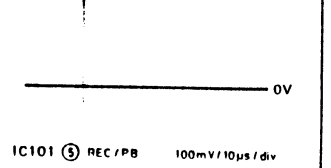
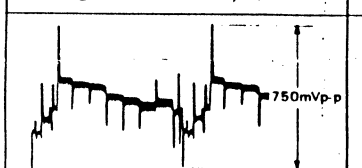
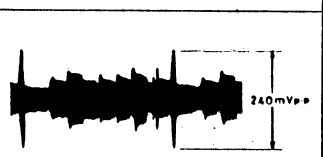
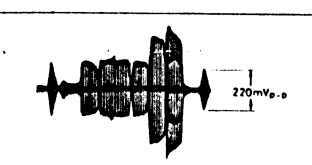
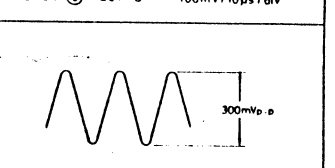
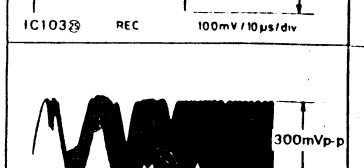
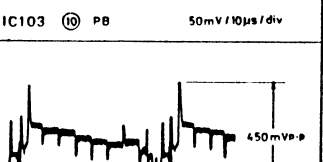
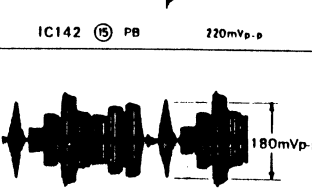
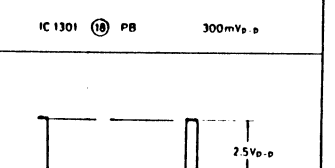
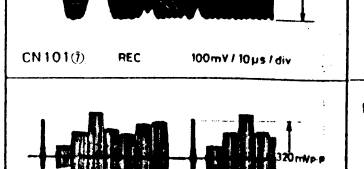
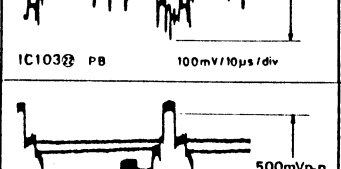
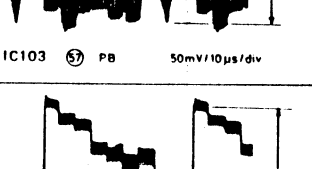
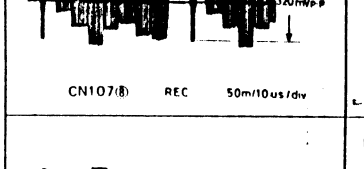
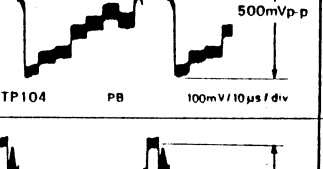
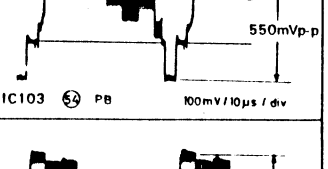
TC-4 BOARD SIDE B



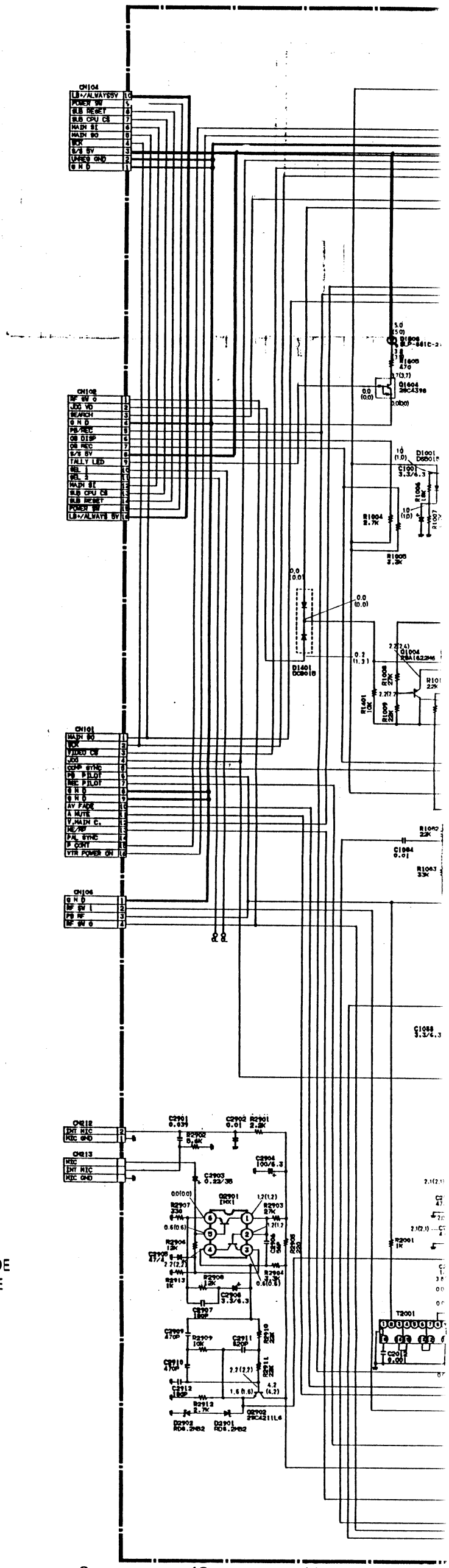
TC-1 CIRCU



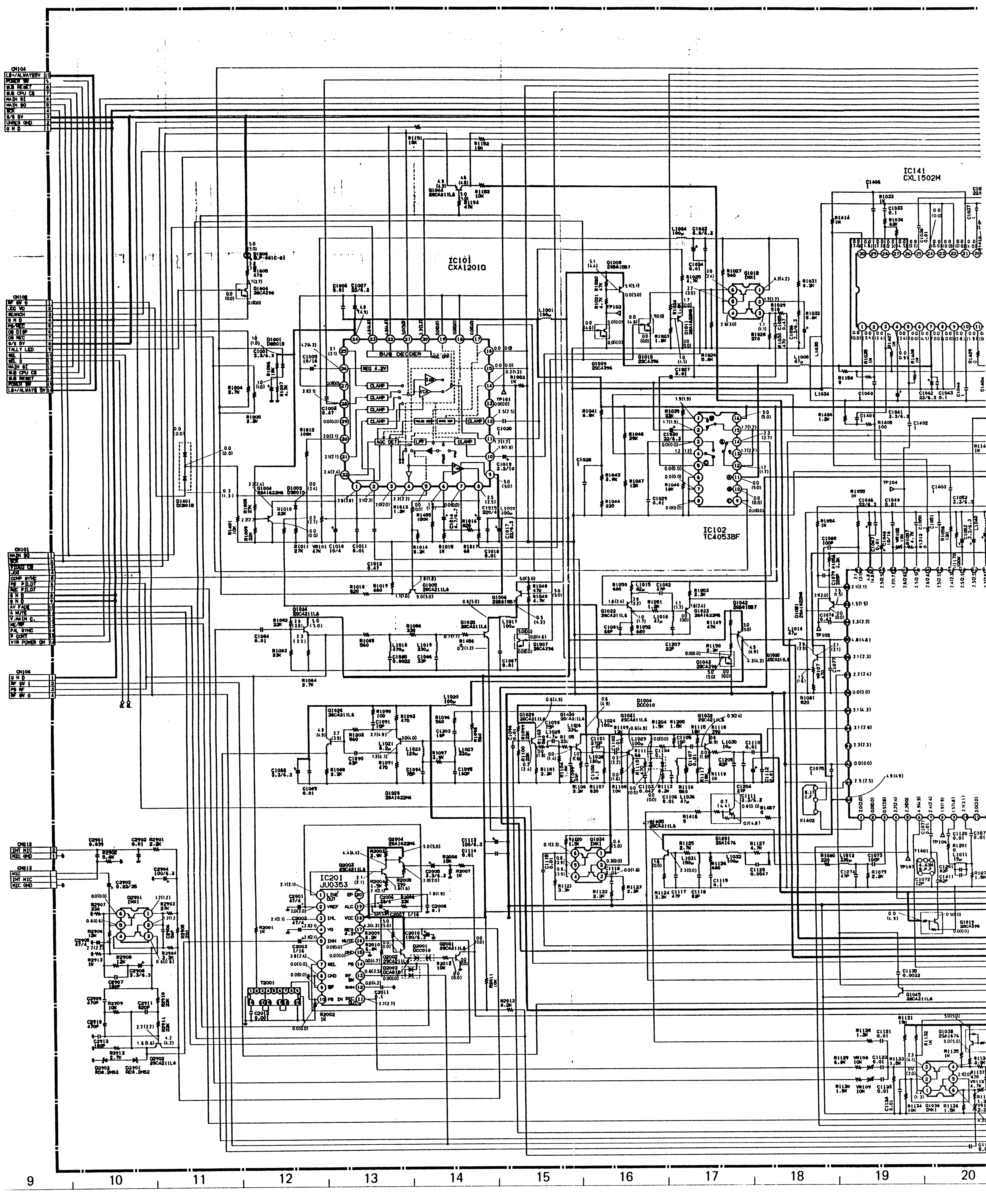
VD-1 BOARD (VIDEO/AUDIO)

 IC101 (28) REC 100mV / 10µs /div	 IC103 (9) REC 50mV/10µs/div	IC103 (43) PB 100mV/10µs/div	 TP109 PB 200mV/10µs/div
 IC101(11) PEC AGC OUT 100mV/10µ/div	TP107 REC 100mV 10µs / div	IC103 (35) PB 320mVp-p	 TP101 PEC/PB 1.0V/10µs/div
 IC101 (10) REC 100mV/10µ/div	Q1035E REC 50mV/10µs/div	IC103 PB 190mVp-p	 TP106 REC/PB 0.5V/10µs/div
 TP109 REC 200mV/10µs/ div	 CN106(3) PB 200mV/5ms/div	TP111 PB 190mVp-p	 IC103 (14) REC/PB 1.0V/5ms/div
 IC102 (15) REC 100mV/10µs/div	 IC103 (60) PB 100mV/5ms/div	IC103 (41) PB 100mV/div	 IC103 (1) REC/PB 50mV/100ns/div
IC102 (14) REC 100mV/10µs/div	 IC103 (3) PB 50mV/10µs/div	 TP110 PB 100mV/10µs/div	 IC103 (16) REC/PB 100mV/100ns/div
 IC103 (30) REC 100mV/10µs/div	 IC103 (9) PB 100mV/10µs/div	 IC142 (2) PB 160mVp-p	 IC101 (5) REC/PB 100mV/10µs/div
 IC103(29) REC 100mV/10µs/div	 IC103 (10) PB 50mV/10µs/div	 IC142 (15) PB 220mVp-p	 IC 1301 (18) PB 300mVp-p
 CN101(7) REC 100mV/10µs/div	 IC103(22) PB 100mV/10µs/div	 IC103 (57) PB 50mV/10µs/div	 IC142 (11) PB 2.5Vp-p
 CN107(8) REC 50m/10us/div	 TP104 PB 100mV/10µs/div	 IC103 (54) PB 100mV/10µs / div	
 IC103 (35) REC 50mV/10µs/div	 IC103 (45) PB 100mV/10µs/div	 IC101 (2) PB 100mV/10µ/div	

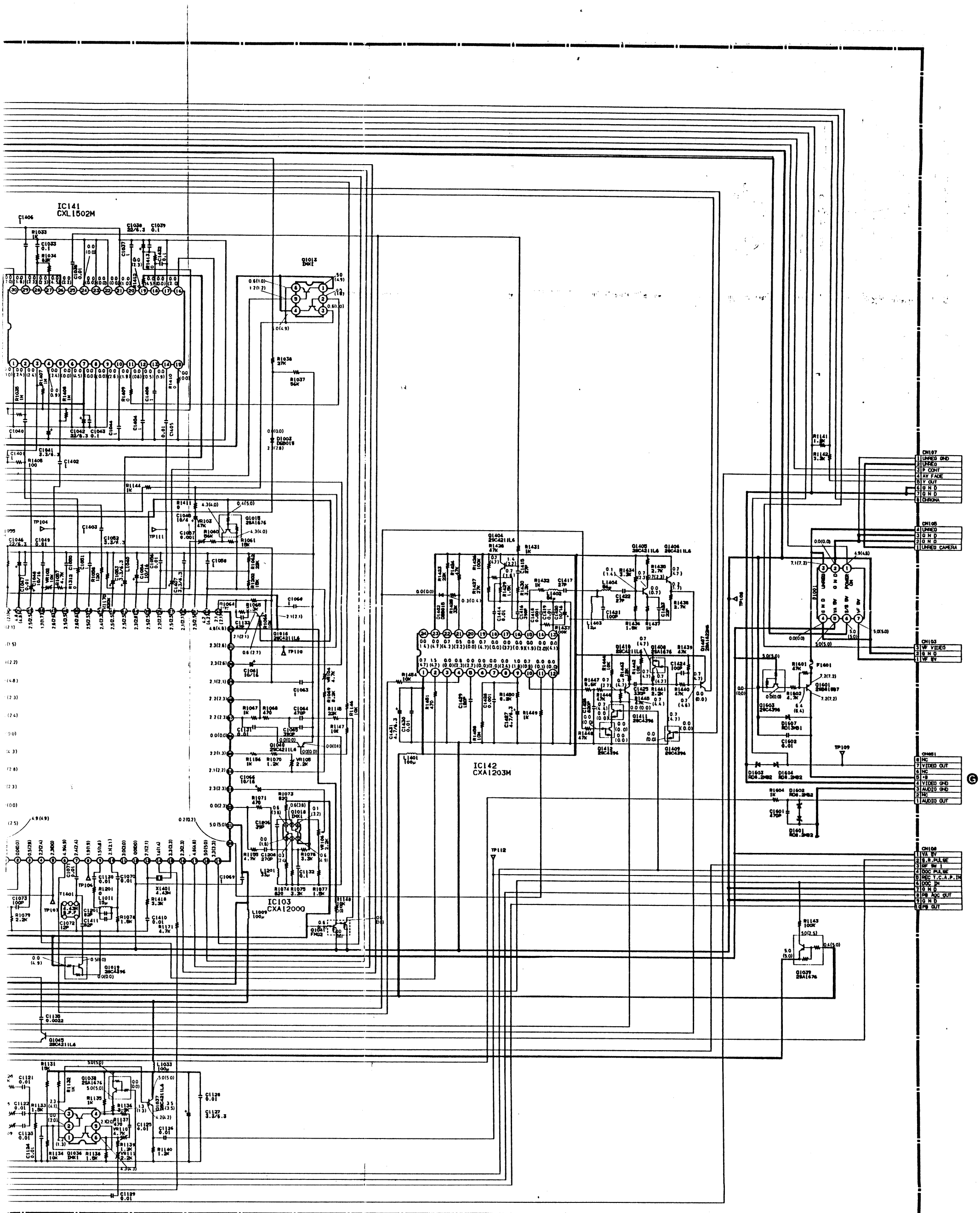
*a: REC MODE
(b): PB MODE



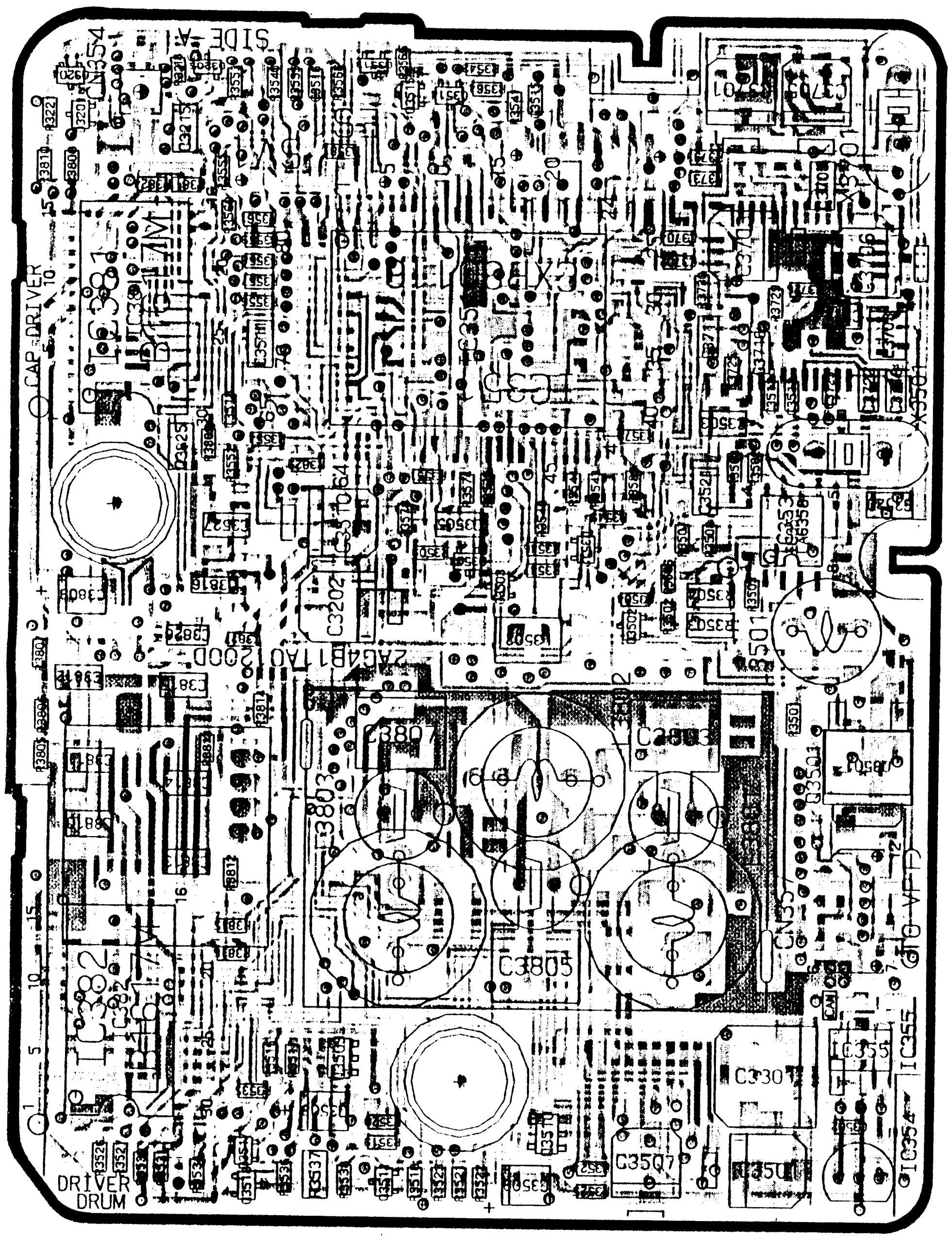
VD-1 CIRCUIT


CN104
LB+/ALWAYS5V
POWER SW
SUB RESET
SUB CPU CS
MAIN SI
MAIN SO
SCK
S/S 5V
UNREG GND
G N D
CN102
RF SW O
JOG VD
SEARCH
G N D
PB/REC
OS DISP
OS REC
S/S 5V
TALLY LED
SEL 1
SEL 2
MAIN SI
SUB CPU CS
SUB RESET
POWER SW
LB+/ALWAYS 5V
CN101
MAIN SO
SCK
VIDEO CS
JOG
COMP SYNC
PB PILOT
REC PILOT
G N D
G N D
AV FADE
A MUTE
V.MAIN C.
ME/MP
PAL SYNC
P CONT
VTR POWER ON
CN106
G N D
RF SW I
PB RF
RF SW O
CN212
INT MIC
MIC GND
CN213
MIC
INT MIC
MIC GND
IC101
CXA1201Q
BUS DECDER
REG 4.2V
CLAMP
AGC DET
LPF
IC102
TC4053BF
IC141
CXL1502M
IC201
JU0353
LINE OUT
VREF
INL
VG
INH
SEL
GND
PB IN
EP
ALC
VCC
REG 4.2V
MUTE
PB
RF SW
RMM
REC OUT
T2001
X1402
T1401
9
10
11
12
13
14
15
16
17
18
19
20

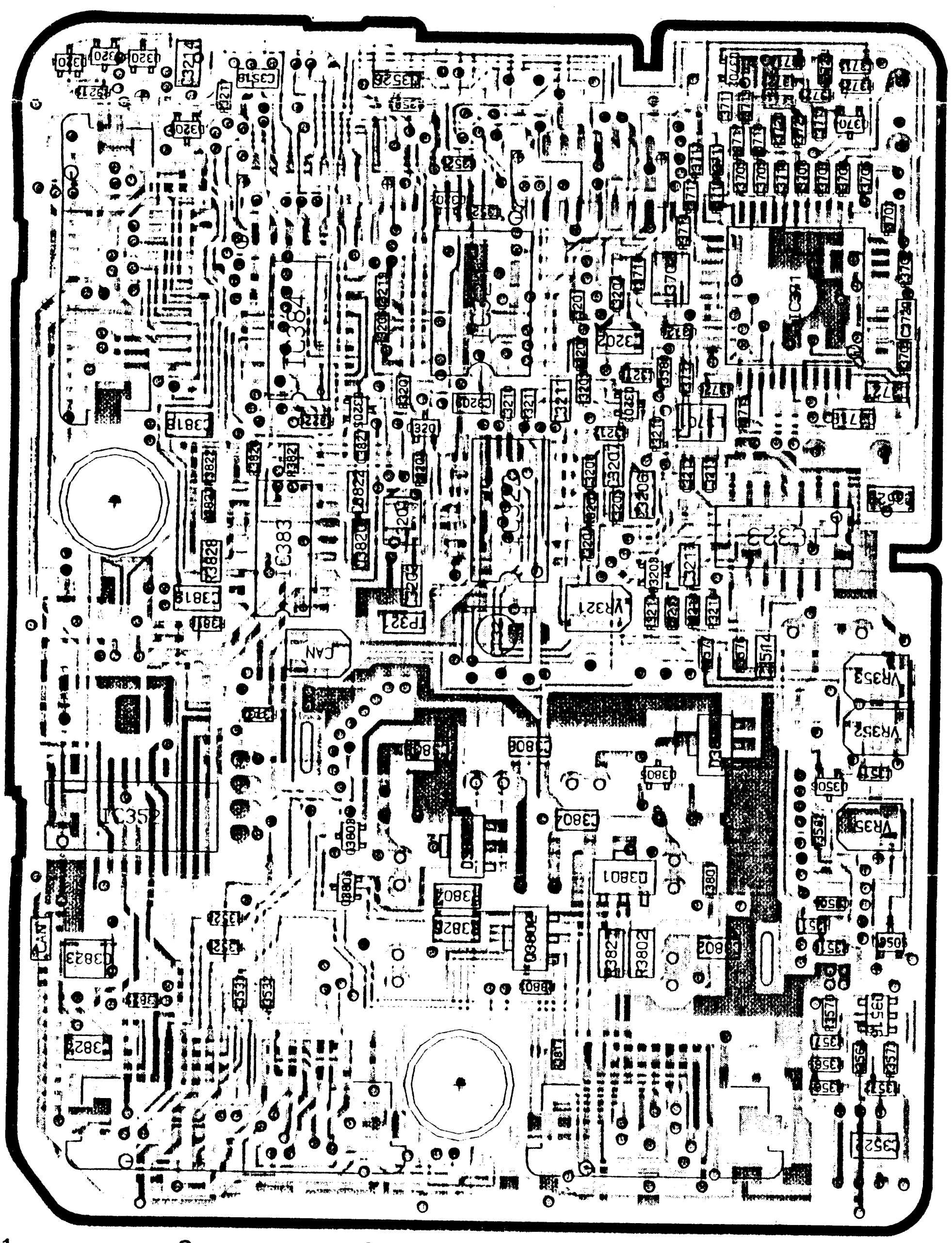
VD-1 CIRCUIT

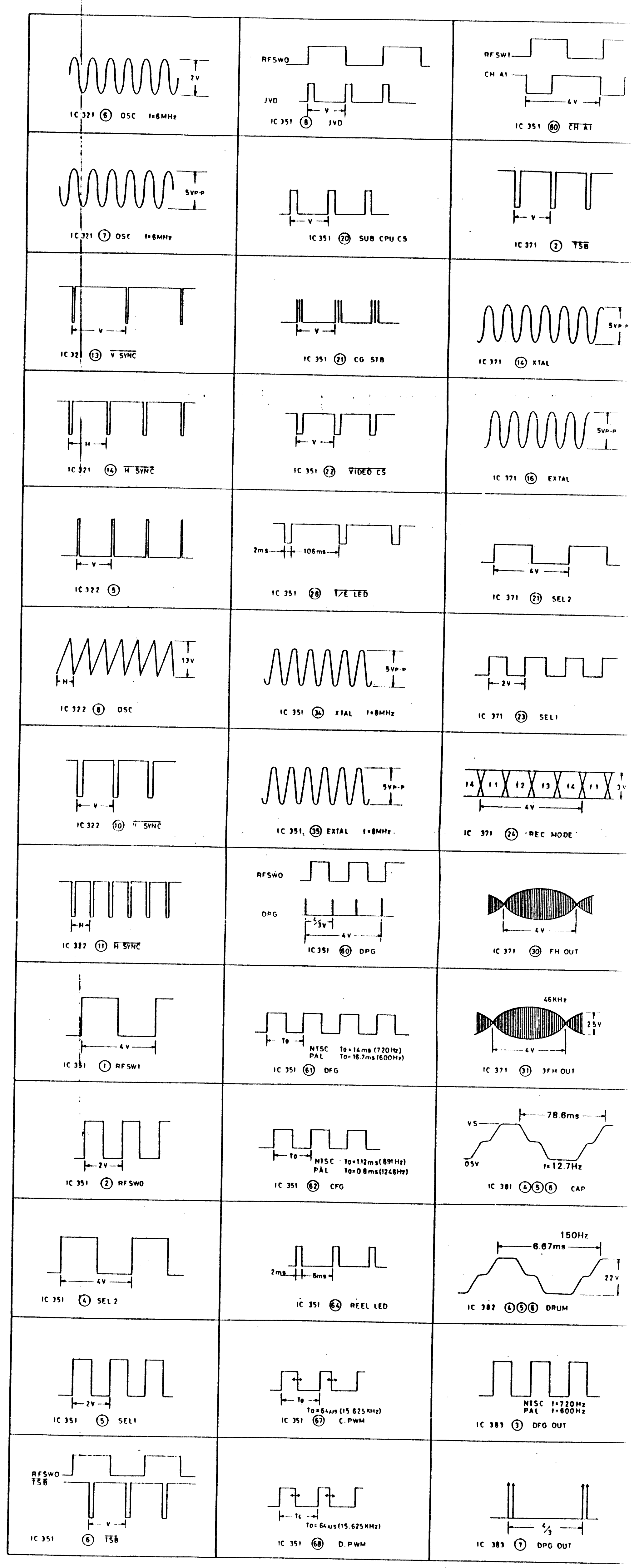

IC141
CXL1502M
IC142
CXA1203M
IC103
CXA1200Q
CN107
1 UNREG GND
2 UNREG
3 P CONT
4 AV FADE
5 Y OUT
6 G N D
7 G N D
8 CHROMA
CN105
4 UNREG
3 G N D
2 G N D
1 UNREG CAMERA
CN103
3 VF VIDEO
2 G N D
1 VF 8V
CN101
6 NC
7 VIDEO OUT
6 NC
5 +B
4 VIDEO GND
3 AUDIO GND
2 NC
1 AUDIO OUT
CN100
1 VA 8V
2 S.S.PULSE
3 RF IN 1
4 DOC PULSE
5 REC T.C.A.P. IN
6 DOC IN
7 G N D
8 PB AGC OUT
9 G N D
10 PB OUT
19
20
21
22
23
24
25
26
27
28
29
30

SV-1 BOARD SIDE A

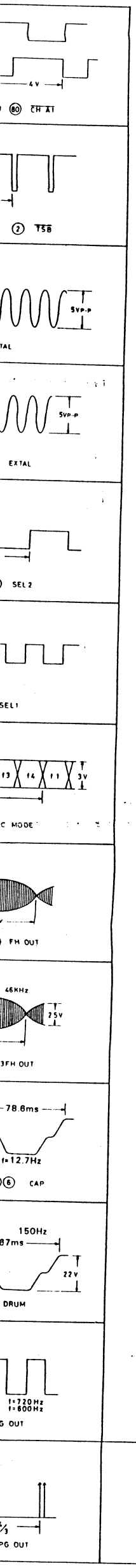


SV-1 BOARD SIDE B



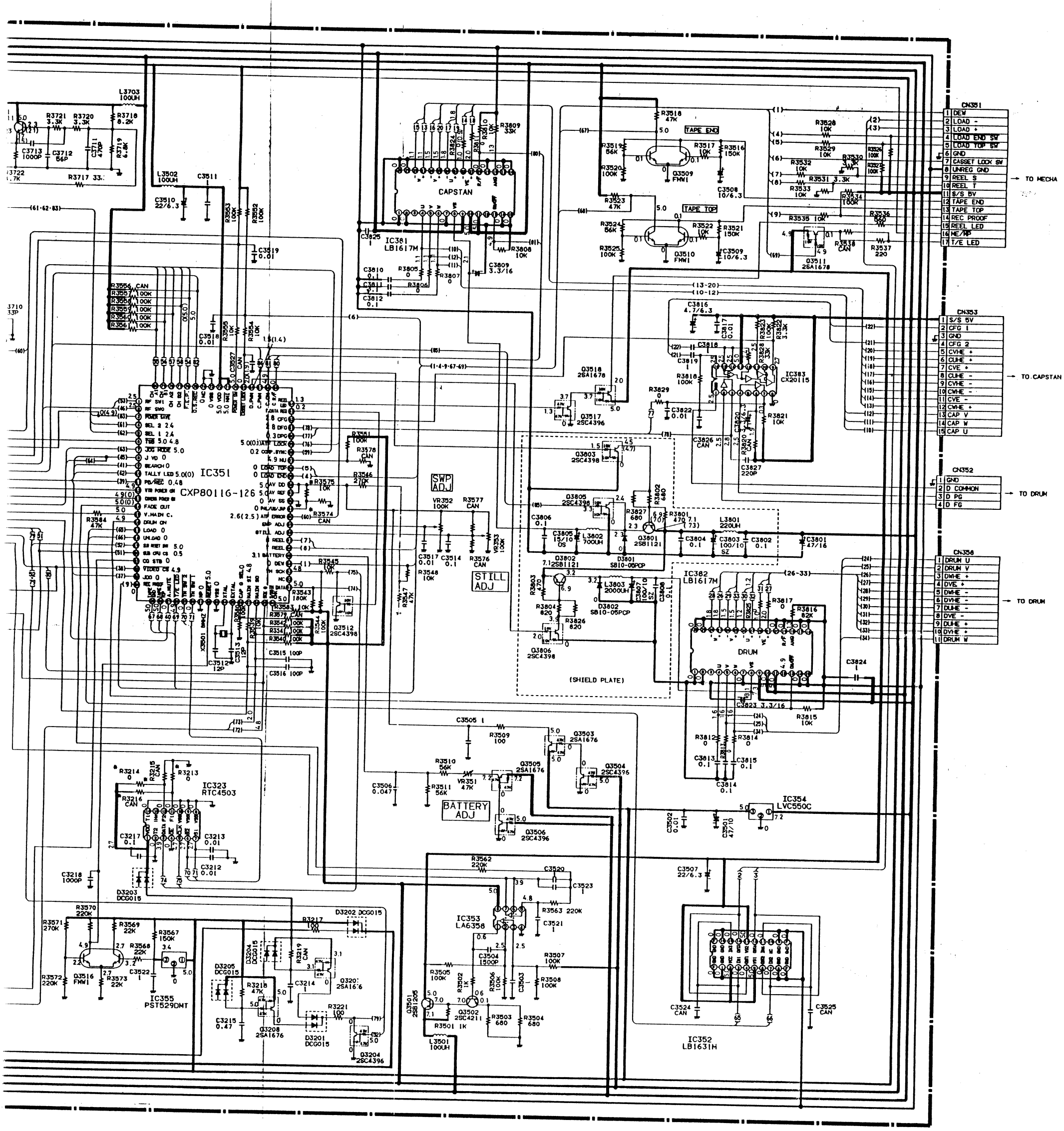

2V
IC 321 (6) OSC f=6MHz
5VP-P
IC 321 (7) OSC f=6MHz
V
IC 321 (13) V SYNC
H
IC 321 (14) H SYNC
V
IC 322 (5)
13V
H
IC 322 (8) OSC
V
IC 322 (10) V SYNC
H
IC 322 (11) H SYNC
4V
IC 351 (1) RFSW1
2V
IC 351 (2) RFSWO
4V
IC 351 (4) SEL 2
2V
IC 351 (5) SEL1
RFSWO
TSB
V
IC 351 (6) TSB
RFSWO
JVD
V
IC 351 (8) JVD
V
IC 351 (20) SUB CPU CS
V
IC 351 (21) CG STB
V
IC 351 (22) VIDEO CS
2ms
106ms
IC 351 (28) T/E LED
5VP-P
IC 351 (34) XTAL f=8MHz
5VP-P
IC 351 (35) EXTAL f=8MHz
RFSWO
DPG
4/3V
4V
IC 351 (60) DPG
To
NTSC To=14ms (720Hz)
PAL To=16.7ms (600Hz)
IC 351 (61) DFG
To
NTSC To=1.12ms (891Hz)
PAL To=0.8ms (1246Hz)
IC 351 (62) CFG
2ms
6ms
IC 351 (64) REEL LED
To
To=64us (15.625KHz)
IC 351 (67) C.PWM
Tc
To=64us (15.625KHz)
IC 351 (68) D.PWM
RFSW1
CH A1
4V
IC 351 (80) CH A1
V
IC 371 (2) TSB
5VP-P
IC 371 (14) XTAL
5VP-P
IC 371 (16) EXTAL
4V
IC 371 (21) SEL 2
2V
IC 371 (23) SEL1
14 11 12 13 14 11
3V
4V
IC 371 (24) REC MODE
4V
IC 371 (30) FH OUT
46KHz
25V
4V
IC 371 (31) 3FH OUT
VS
78.8ms
0.5V
f=12.7Hz
IC 381 (4)(5)(6) CAP
150Hz
6.67ms
22V
IC 382 (4)(5)(6) DRUM
NTSC f=720Hz
PAL f=600Hz
IC 383 (3) DFG OUT
4/3
IC 383 (7) DPG OUT

SV-1 CIRCUIT


4 V
80 CH AT
2 T56
5Vp-p
TAL
5Vp-p
EXTAL
SEL 2
SEL 1
f3 f4 f1 3V
C MODE
FH OUT
46KHz
25V
3FH OUT
78.6ms
f=12.7Hz
6 CAP
150Hz
87ms
22V
DRUM
f=720Hz
f=600Hz
G OUT
1/3
PG OUT
NTSC f=891Hz
PAL f=1246Hz
IC 383 9 CFG OUT

CN356
MAIN SO
SCR
VIDEO CS
JOG
COMP.SYNC
PB PILOT
REC PILOT
GND
GND
AV FADE
A.MUTE
V.MAIN C.
ME/PP
PAL SYNC
CAMERAPOWER ON
VTR POWER ON
TO VDI
CN355
RF SW O
JOG VD
SEARCH
GND
PB/REC
O.S.DISP
O.B.REC
S/S 5V
TALLY LED
SEL 1
SEL 2
MAIN SI
SUB CPU CS
SUB RESET
POWER SW
LB+/ALWAYS 5V
CN357
F.E.P.
CH B2
CH B1
RF SW O
GND
UNREG GND
UNREG
V.MAIN C.
RF SW 1
CH A1
CH A2
POWER SAVE
TO VP1
CN354
LC+B
GND
TO TB2
IC371 CXA1204Q
IC321 μPD6142G-101
IC322 LVA519F
IC384 LC4001BM
IC351 CXP80116-126
IC323 RTC4503
IC355 PST529DMT
Q3701 2SC4211
Q3702 2SA1922
Q3513 2SC4396
Q3514 2SC4211
Q3515 2SC4211
Q3202 2SC4396
Q3205 2SC4396
Q3201 2SC4211
Q3203 2SC4211
Q3516 FMW1
Q3512 2SC4396
Q3208 2SA1676
Q3204 2SC4396
X3701 5.64MHZ
X3501 3.84MHZ
D3203 DCG015
D3202 DCG015
D3205 DCG015
D3201 DCG015
TP321
AFC ADJ
OS POSITION ADJ

SV-1 CIRCUIT


IC351
CXP80116-126
CAPSTAN
DRUM
IC383
CX20115
IC323
RTC4503
IC353
LA6358
IC354
LVC550C
IC352
LB1631H
IC355
PST529DMT
IC361
LB1617M
IC362
LB1617M
CN351
1 DEW
2 LOAD -
3 LOAD +
4 LOAD END SW
5 LOAD TOP SW
6 GND
7 CASSET LOCK SW
8 UNREG GND
9 REEL S
10 REEL T
11 S/S 5V
12 TAPE END
13 TAPE TOP
14 REC PROOF
15 REEL LED
16 ME/MP
17 T/E LED
→ TO MECHA
CN353
1 S/S 5V
2 CFG 1
3 GND
4 CFG 2
5 CVHE +
6 CUHE +
7 CVE +
8 CUHE -
9 CVHE -
10 CWHE -
11 CVE -
12 CWHE +
13 CAP V
14 CAP W
15 CAP U
→ TO CAPSTAN
CN352
1 GND
2 D COMMON
3 D PG
4 D FG
→ TO DRUM
CN356
1 DRUM U
2 DRUM V
3 DWHE +
4 DVE +
5 DWHE -
6 DVHE -
7 DUHE -
8 DVE -
9 DUHE +
10 DVHE +
11 DRUM W
→ TO DRUM
TAPE END
TAPE TOP
SWP ADJ
STILL ADJ
BATTERY ADJ
(SHIELD PLATE)
Q3509 FMW1
Q3510 FMW1
Q3516 FMW1
Q3517 2SC4396
Q3518 2SA1676
Q3801 2SB1121
Q3802 2SB1121
D3801 S10-05PCP
D3802 S10-05PCP
L3703 100UH
L3502 100UH
L3801 220UH
L3802 700UH
L3803 2000UH
L3501 100UH
XC3501 8MHZ
*a: REC MODE
(b): PB MODE